AMSTRAD PCW

8000 PLUS

8256 • 8512 • 9512

FLIPPER

*Double your PCW Power
with this amazing new package*

Do it by numbers

Choose the right spreadsheet

with our in-depth survey

AMSTRAD PCW8256

PLUS: Complete buyer's guide to Spreadsheets, Graphics and Games

8000 PLUS

OPENING MENU

OPENING MENU:
- Latest News
- ♦ Great features
- In-depth Reviews
- Amazing tips
- Buyer's Guide

Mini Office p20

Case in point p26

Home banking p30

Stocks and shares p36

Games p42

THREE AND EASY

8000 Plus is entering its third year. It is, we hope, unlike any other technical magazine, because PCW users are unlike normal computer owners. We do our best to make it informative, educative and entertaining – and while we haven't quite got the number of subscribers that the BBC has, we try to stick to the same principles.

Every morning, postal strikes permitting, we get around thirty to forty letters, and they reflect the wide spread of people that own PCWs. In front of me are letters from a solicitor, a butcher, a secretary, a retired civil servant, a school student, a computer programmer, a police officer, a doctor, a mailperson, a home maker, a sociology PhD student bitterly complaining about the last editorial, a sociology PhD student wildly praising the last editorial...
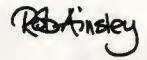
The big problem for us is that we have new readers joining all the time, in addition to the loyal subscribers we've had since issue 1. Some of the letters ask us to explain things in a bit more detail for recent PCW converts; just as many wonder why we aren't moving on to articles on programming and machine code and dBase II applications.

In the coming year, we'll do our best to cater for everyone – we'll present tips on LocoScript as well as CP/M applications, do features on creative writing with the PCW as well as on business use, and present tutorials on programming as well as paper types in LocoScript.

There's a questionnaire on page 45 where you can tell us what you think ought to be in the magazine, whether it be tutorials, features, listings, short stories, reviews of that unknown program you've found....

The PCW has, by virtue of being cheap and easy to use (if you don't think LocoScript is easy to use, you've never used another word processor!) brought the power of the micro to a wider range of people than any other machine. We want you to help 8000 Plus do the same.

Rob Ainsley

Sits vac

8000 Plus is looking for a writer to join its team. You must have a thorough knowledge of LocoScript, CP/M, BASIC programming and hopefully a few of the better known CP/M applications such as SuperCalc, Mini Office, desktop publishers, accounts packages etc. You must also be able to write lively copy to ridiculous deadlines,

enjoy working in an easy-going West Country atmosphere, and bear the appalling humour of your fellow editorial staff. Qualifications and experience aren't nearly as important as being the right person. Future Publishing is an equal opportunities employer.

Call or send a cv and letter to Rob Ainsley at *4, Queen St, Bath BA1 1EJ.*

It's been a wet summer

We have been know to make the odd typing error on 8000 Plus – we referred to a 20k hard disc

...ge capacity of a ...st to moist PCW ...users. After all, t ...than the cost of ...instant access to

the other month, for example, instead of a 20 megabyte hard disc. Well, we were only a factor of a thousand out. But we were intrigued by another hard disc misprint in one of our rival magazines...

8000 PLUS

The sparkling November issue of 8000 Plus will be rocketing into your newsagents on October 27th. Don't miss out on the fireworks, order your copy now – it'll be a cracker!

Time and Magik Competition

Our August competition in which you had the chance to win a copy of Mandarin Software's *Time and Magik* game drew a varied batch of holiday postcards, the furthest afield coming from Kuala Lumpur!

In the opinion of the judges, the answers to our fiendishly difficult quiz questions were: *Time* 1-b; 2-a; 3-a; *Magik* 1-c; 2-a; 3-c.

The winners were as follows: **John Rimmer**, Mortlake

Churchyard, London; **M O'Toole**, Essex; **Mr S Delph**, Abingdon; **RE Tims**, Didcot; **D Holgate**, London; **Peter Bayliss**, Rugby; **Peter Garner**, Aylesbury; **John Hawkins**, Brentwood, Essex; **MS Penfare**, Surrey; **A Spiers**, London; **Mrs Myra Kinnaird**, Aberdeen; **J Shone**, Erdington; **AEG Green**, Essex; **Mr JH Sharpe**, Northampton; **Alan Whiteley**, Oswaldtwistle; **MA Metcalfe**, Boscastle, Cornwall; **N**

Nixon, Reading; **N Spalding**, Ramsgate, Kent; **G Agbogun**, Plumstead, London; **Mr DG Burton**, Blaenau Ffestiniog, Gwynedd.

John Rimmer, being the first out of the hat, won the first prize of the modern clock which also tells the time. Congratulations to the prize winners – even as we speak, your copies of Time and Magik are on their way.

Good on paper

Juki have brought out a new 24-pin printer said to be the most advanced dot matrix for paper handling in the world. It claims to be able to print continuous stationery, cut sheets, envelopes, business cards, labels, tickets, cheques and so on all on the one machine. A sensor adjusts the print head according to the thickness of the paper for best results. It has a built-in sheet feeder for any size paper or envelopes and can print a single sheet document on its flatbed printer in the middle of a continuous run.

Now that LocoScript is supporting 24-pin printers this will be of interest to a lot of small businesses. The Juki 7100 is £900 plus VAT and the 7200 £1625 plus VAT. Details from 0256 473232.

NEWS

LocoScript database unveiled

The latest issue from the Locomotive Software stable – a database which works from within LocoScript – was demonstrated at The Personal Computer Show at Earls Court last month. The LocoScript 2-oriented database, called LocoFile, is like a pop-up card index. On each card is stored a particular set of information – like a name and address – to a pre-determined format. At any time by pressing the appropriate key, you can access the item in the database you need and the program will display a card from the current datafile. You can then transfer information between LocoFile's card and your LocoScript document by using the copy and paste facilities. When you leave LocoFile you're back where you were in LocoScript and ready to paste in that set of information.

You can arrange the cards exactly how you like; up to eight orders are available to use simultaneously for the same set of cards. The program will also sort on two data items, or keys; for example, you can keep a record of customers in order of the town and within each town in order of the customer name. LocoFile will immediately access a particular record for you or even a specific card.

You can transfer a LocoMail datafile into the program's pre-determined format so that your existing LocoMail data doesn't become redundant. LocoMail also works with the LocoFile cards as though they were a LocoMail datafile. The program is said to compare very well in terms of speed with normal CP/M databases and uses many of the programming techniques that Locomotive developed when writing JETSAM, the filing system used in the version of BASIC supplied with the PCWs.

LocoFile will operate on all of the PCW machines and will be released onto the market next month. The cost is likely to be £29.95; details from Locomotive on 0306 740606.

Above par

New from JKL Software for the Amstrad PCW machines is a program which has been designed to assist with all of the normal requirements of a golf club handicap secretary. The Handicap Management System offers a complete handicap calculating and record-keeping package which promises to save the dedicated golf club hours of paperwork. All you have to do is type in to the largely menu-driven system the name of the player and their gross score, and the computer will calculate the nett score along with the nett differential and subsequently the new handicap.

The program, which has been in regular use in Scotland where it was first developed, will list out on paper all of the players with their various handicaps. It will also save the information that you enter for the rest of the year, if you so desire.

Also included is another program called Open Scoring which is intended as a companion to The Handicap Management System. This is mainly for use with two round open matches where the handicaps are not changed between rounds.

The main drawback lies in the £99.00 that you have to fork out for the system. But Keith Longstaffe of JKL Software stresses the program's reliability and is willing to carry out free on site demonstrations of the program wherever possible. For further information, call him on 0506 844149.

Marginal success

Following last year's success of Margin Maker MM3 – a cut sheet locator and aligner specifically designed for the 8000 series printers – the makers have come up with MaxaFit, a similar device for other printers. We are told that this model will fit up to 80% of existing back feed printers and electronic typewriters, regardless of their carriage-width.

MaxaFit is an adjustable, one specification aid to easy and economical use of cut sheet stationery (or non-continuous paper). Paper guide arms lock wherever required whilst the paper is supported to prevent sagging. It will be retailed at £17.50 plus VAT. Further details from Margin Maker on 0784 52677.

Copy cat

SBS Computer Supplies Ltd have recently made their contribution to the ever-expanding copyholder market by coming up with the Grippa. This particular copyholder is suitable for any kind of Visual Display Unit and is secured with adhesive strips to the top of the monitor. It claims to hold anything from the thinnest piece of paper to a notepad and can be attached either to the right or left-hand side of the screen. It's also up to you whether you mount it on the VDU, keyboard or simply have it free-standing on the desk. What will they think of next?

Grippa is £9.95 and can be ordered from SBS on 0273 726331.

```
                    YOUR   OWN   GOLF   CLUB
Results of Example Match held on  5/ 5/87
                                  gross h'cap  nett   nett   changed
                                  score        score  difn   h'cap
membership     name
no.
Handicap Categories 1, 2,                        2     69     -1      1
                                      71
   21   HV  Longfellow
                                      77     7    70     +0
   23   M   Arnold                    72     2    70     +0
    8   R   Lovelace                  73     3    70     +0
    3   V   Ralegh                    76     6    70
   20   A   Tennyson
```

Backing up the cause

Sooner or later, it happens to us all: that disc with the only copy of your 200k customer address list or your 90,000 word thesis somehow gets corrupted and the data is irretrievable.

For the past year civil servant Dave Smith has been using his technical knowhow to help desperate PCW owners recover their lost data and in doing so raise money for BACUP, the Cancer Counselling Charity. There's no fixed charge; the fee depends on various factors like the time taken to recover data (which can be anything from fifteen minutes to ten hours). Certainly, Dave says, it's less than the cost of buying a disc repair program and doing it yourself.

He's currently earning around £600 per month for BACUP and is so busy he has just bought a PPC so he can transfer data to that machine and do data recovery on the train to work!

During the postal strike he enjoyed a rest from his very time-consuming sideline. "I must spend about twenty-odd hours a week

Dave disk doctor

When computer wizard David Smith gave first aid to a work colleague's troubled computer disks, little did he realise he would soon become a nationally-acclaimed "disk doctor" and raise funds for BACUP into the bargain!

David, of Paddock Wood, Kent, now "cures" ...

on data recovery," said Dave. "I get a real mix of problems – vicars who want to recover their sermons, TV companies who have lost scripts, doctors who have corrupted patient records – quite a lot of it is extremely sensitive information. Today I've been recovering the work of a translator who was working on an erotic novel. Each alternate track had been corrupted, so it was rather tantalising

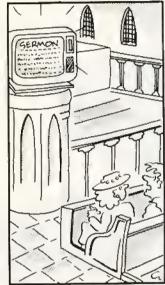examining the contents of the disc!"

Dave has been helped by Locomotive who, supporting the cause, gave him classified technical information about file structure in LocoScript. As a result he reckons that 80% of all discs can be completely recovered, the remainder having anything from 10% to 90% of the data recovered.

BACUP supports and provides a base for cancer sufferers and their families. Enquiries about any aspect of living and coping with cancer are answered by a trained team of nurses on 01 608 1661, 10am-7pm Monday-Thursday, 10am-5pm Friday.

Corrupted discs should be sent with an sae to Dave Smith, 41 Tutsham Way, Paddock Wood, Kent TN12 6UA (Tel: 089283

5974). And if you know of anyone in the Kent area who could assist Dave in his work full-time, he'd be glad to hear from you!

BACUP NEWS
The Journal of the British Association of cancer united Patients and their families and friends

" HE CERTAINLY GETS HIS MONEYSWORTH FROM DAVE SMITH

Spitting image

Custom Image is a new company based in Salisbury who are aiming to provide clip-art that can be used with any of the desktop publishing packages that run on Amstrad PCW machines. Where their services differ from run of the mill clip-art libraries, however, is in the customisation of graphic images. In other words, they produce digitised images which you can then use to personalise your documents.

What this involves is using a video digitiser to scan a non-digitised picture – like a photograph or a television screen – and converting the image into a series of dots that can then be used with desktop publishing software. This means that graphics which would otherwise be impossible to reproduce in your documents – like company logos, cartoons, photos – can be captured and used as many times as you like.

They will return a 3" disc on which the digitised image that you require is stored plus the original material supplied as artwork. Reproduction of one

image will cost you £8.00 while a charge of £2.00 is made for each subsequent image.

Custom Images say they can successfully convert images for use on The Desktop Publisher and are currently working on customisation processes for Fleet St Editor Plus and Newsdesk International. Other customisations will be according to demand.

For further information, contact Andrew Moore of Custom Images, 28 Burnett Way, Bishopdown, Salisbury, Wilts.

Perfect match

Coda Software, producers of the American Football simulation game Head Coach, have just reached a licensing agreement with Qualsoft, allowing them to produce a PCW version of World of Soccer, which up till now has only been available on the Atari ST. Available from mid-September, World of Soccer costs £15.95, and is the latest in a line of sports strategy games for the PCW. More details from Coda on 01 789 9551.

DIY Pascal
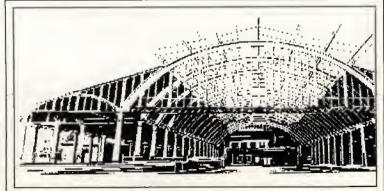
Pecan Software Europe, based in Bristol, are now offering PDQ (Pretty Darn Quick) Pascal learning for the novice. Pascal is also hailed as the easiest language for BASIC

PECAN™
Pecan Software Systems Inc,

buffs to move on to and so it's not surprising that the slightly bored big B hacker is among the target market too.

Supplied with PDQ Pascal is an Integrated Development Environment, Full Screen Editor, Pascal Compiler and all the utilities you need to help you write that first Pascal program.

The accompanying manual claims to be written in such a way as not to put off the beginner at programming (there's a first time for everything). PDQ Pascal is available for use on the Amstrad PCW and costs £29.95. Call 0272 425012 for further details.

The first time Westing's statements went out on time.

Was it because all of the N series 9-pin business printers are so remarkably fast and reliable?

Was it because the NR-15 we've just started using is a quality full-width business printer?

Was it because all Star printers have a push-feed tractor built in and a fully automatic cut sheet feed option?

Was it because the high density NLQ produces excellent quality print at 60cps with full width draft printing at 240cps?

Was it because our Star NR-15 copes so easily with the spreadsheets, stock listings, invoices and statements?

No, the reason my department completes its paperwork on time is all down to me.

Because I decided to choose the Star N series 9-pin printers. And with prices from around £400, even that took no time at all.

THE star COMPUTER PRINTERS

Star Micronics U.K. Ltd.
Craven House, 40 Uxbridge Road,
Ealing, London W5 2BS.
Telephone: 01-840 1800.

A division of
Star Micronics Co., Ltd., Japan.

PUT IT IN FIGURES

Alec Rae looks at four popular spreadsheet programs

No matter how good an accounts package you have, there is still always something else that you feel you could use your PCW for. Perhaps you might want a simple method of keeping track of stock or a systemised way of keeping track of a small payroll.

This is where the spreadsheet comes into its own. As long as you have a reasonably clear idea of what information you want, you can easily produce a matrix – in effect a blank form. All the headings will be in the right place and all the formulae will be worked out, just waiting for you to enter the figures.

Then each day, week or month you can simply add in the figures and all the correct computations and totals are worked out automatically. Once you have run this for a while you may find there is a figure that you forgot you needed. You can then simply add in the correct formula. If on the other hand you discover there is a total that you have included which doesn't really mean very much, it is the work of a moment to remove it.

This way you can constantly modify your layout honing it to perfection. At the end of six months you should have an accounts, stock or payroll system that would ideally suit the needs of your business, rather than suit the ideas of some software designer who doesn't know anything about your way of working. In the same way you can easily take account of changes in bank or tax rates.

In effect you could start with a simple task and build up until you had a full blown accounts system.

Into the future

But perhaps an even more powerful aspect to spreadsheets is their ability to produce 'what if' type predictions. A spreadsheet can work things out remarkably quickly and keep track of a lot of complicated detail. So you can, say, set up a really complicated cash flow sheet with spaces for all your predictions of costs and income.

Then you can try out any number of permutations of events (high cost-low income, low cost/high-income etc) so you can discover how much you will lose in the event of everything going wrong or how near you will get to making a profit if everything goes right. Once you have these really helpful figures worked out you can start changing and adapting them to produce the final copy to go to the bank along with your application for an overdraft. All these variations will take minutes to produce instead of the traditional hours of complicated arithmetic and corrections normally needed.

Print enough of these out for your bank manager and your overdraft is assured.

Imagination limited

However the uses of a spreadsheet are limited by the imagination of the user. The more you use it the more the ideas occur.

For instance real spreadsheet buffs will use them as a glorified calculator. Any time they have a problem that might mean a few calculations they quickly knock up a quick one-off spreadsheet. Say you are buying a house. You can work out a simple formula to take work out the maximum mortgage available and the cost of the payments.

But that is just a start. You can work out the payments of a few thousand more or less and even the effect of the mortgage rate rising or falling, all by simple changes to the formulae. An enterprising Chancellor of the Exchequer could use one to model the economy on and test out his strategies – eg. how far do we have to push up interest rates to keep the balance of payments deficit down?

What is the most useful, most flexible, all purpose piece of software for a computer? Unless you are only into word processing or graphics the obvious answer would probably be a spreadsheet. Yet there are still relatively few people using spreadsheets. And very few are using them to their full potential.

Perhaps this is because of the difficulty explaining simply what a spreadsheet does. Or it may be because of the amount of time and effort involved in setting up, say, a complicated accounts package on a spreadsheet.

But perhaps the real reason is that people have not had their imaginations inspired to see the thousands of applications that the spreadsheet can have for every office or home.

Most programs have a search facility so there is usually a reasonable chance of using your spreadsheet as a database. You can list names, addresses and any relevant details in text cells and then find the details easily when you want them.

Another popular use is to sort list of words into alphabetical order. If the program has the ability to sort numbers (and most do) they can usually also sort alphabetically. So you could write a routine to keep your cricket club's averages up to date automatically in order – all you do is enter each player's last performance. Or it could show the current state of your pub quiz league table. Or maintain marking records for your GCSE class. Or do the number crunching for you on those tables of statistics for your sociology PhD. Or...

So although getting to grips with a spreadsheet might be quite a time consuming exercise it will in the long run provide you with an invaluable tool.

CRACKER TURBO
£49.95 ● Newstar Software (0277 220573)
● All PCWs (Graphs 8000s only)
The major development in the PCW spreadsheet world was the issue of a revamped Cracker spreadsheet – on of the most popular packages on the scene. Cracker has always provided probably the widest range of features of any of the spreadsheets although the price to pay for this was obviously the fact that it is one of the most difficult packages to get to know.

It is not helped by the fact that unlike other spreadsheets, in Cracker you start with a blank screen and have to built up the sheet yourself adding columns and rows. This is sensible once you know what you are doing but can cause a moment of panic when you start.

It is not helped by less than lucid documentation although a new, improved manual has been promised. But if you do battle through you will find an impressive list of invaluable features. Certainly the more complicated mathematical, statistical and engineering features should make it invaluable to some users.

One valuable feature is the macro which allows you to carry out repetitive commands to a formula. So instead of setting formats, or typing in repeated headings or formulae over a number of columns you just right a macro to do it for you. You can use a macro to set up really big, complicated sheets automatically.

The program also offers a number of interesting features not found in the average spreadsheet. For instance Cracker has quite a sophisticated graphics section which lets you choose from 18 different types of graph or chart from simple pie or bar charts to complicated statistical, scientific or engineering options.

There are interesting ways of handling time (from the date to controlling the internal clock) which are supposed to be able to be linked up to the external port to switch your central heating on and off – although the normal time switch is probably a more sensible solution.

It also its own programming language which allows you to use commands like the BASIC IF statements and SUMIF – a method of adding up the total of specially marked entries.

Even for such a complicated program Cracker is still reasonably simple in operation. You run it by single keystrokes (usually the first letter of the command word) and the program then automatically takes you through a series of prompts giving you the options available. If you make a mistake it bleeps at you angrily so the early stages of learning can sound like a bit like morse code. Also invaluable at this point is a help screen which gives at least an idea of what the keypresses achieve.
Verdict – One of the hardest to get to grips with but once learnt Cracker has many unique features and has a flexibility not found in many of its competitors.

FIRST CALC
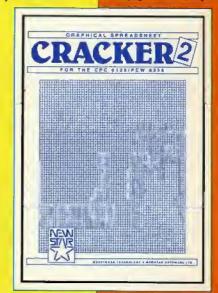£29.95 ● Minerva Systems (0392 37756) ● All PCWs
In many ways First Calc is an excellent idea. Most people do not have the really complicated applications to stretch the features of the most basic spreadsheet. So why not make a virtue of it and produce a special simple program that allows an easy initiation into the mysteries of spreadsheets.

Certainly First Calc is not too cut down to be of any use. It can handle sheets of up to 5000 cells and claims to be able to perform calculations to 14 significant figures (there is surely someone in the world who wants calculations correct to 14 significant figures).

It does virtually all the normal sort of calculation functions you would expect with a few useful features like the ability to toggle the direction of the calculation (so that it will add up vertically or horizintally, for instance) and ▶
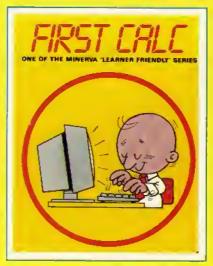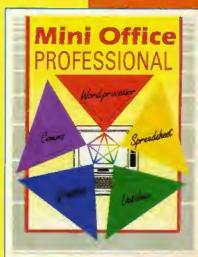
The first calc
The first spreadsheet program ever was VisiCalc, only about twelve years ago. The concept of a spreadsheet is a very recent thing even in the rapidly developing world of computing

FEATURE

The paper it's written on

In the paperless office the spreadsheet is the equivalent of a big piece of paper. And for your convenience the piece of paper is lined off into boxes (or as computer buffs like to call them 'cells'). For your convenience you can usually make the cells any size that suits your purpose. They are referred to like squares on a map, a combination of letters and numbers. The top left cell is A1, the one below it A2, the one on its right B1, and so on.

You can enter words or figures in these cells as you want, building up columns or tables with all the suitable headings or labels. Then you start working out the formulae. For instance if you have a list of twenty figures in a column, you tell the cell at the bottom to display the total of the twenty figures above.

You could then take away the total from another total, add 15 per cent VAT, find the average, express the answer as a percentage of another figure, square root it, take the log... in fact, virtually any kind of computation you want.

For example, in cell C13 you could say something like "Take the figure in cell A13 and add it to the figure in B13".

You can also add in any text you require either as labels or headings or as entries as in a database.

an simple toggle between 'formula on' and 'formula off' mode so you can set up your matrix easily and then switch when you are entering the figures. Also very useful is the ability to automatically move the cursor after each entry. So if you are filling in figures in a column you can automatically drop one cell or move one cell to the left each time.

CRACKER TURBO
PLUSES
▲ Wide range of features especially good for scientific/mathematical purposes
▲ Sorting alphabetically and numerically
▲ Macros facility
▲ Good help screen and error checking in commands

MINUSES
▼ Manual can be obscure
▼ Takes time to learn all the features

RANGE OF FEATURES	5/5	EASE OF USE	2/5
PERFORMANCE	4/5	DOCUMENTATION	2/5

8000 PLUS VALUE VERDICT 4/5

FIRST CALC
PLUSES
▲ Simple yet surprisingly sophisticated
▲ Inexpensive introduction to spreadsheets

MINUSES
▼ Not as powerful as other spreadsheets but not much easier to use

RANGE OF FEATURES	5/5	EASE OF USE	4/5
PERFORMANCE	3/5	DOCUMENTATION	2/5

8000 PLUS VALUE VERDICT 4/5

Where it perhaps fails is that the commands seem so eminently forgettable. There are virtually no on-screen prompts and the key-strokes are not totally obvious. There is a help screen but constantly having to refer to this would be time consuming while you were learning the system. However with less to learn this should not be an insurmountable problem, especially as the manual as good worked examples to help you into the program.

Perhaps more serious is the lack of a search facility which could cause problems on a big application and means that you cannot use it as a database.

Verdict – A good cheap easy to use program that should be able to handle all the normal needs of the average user.

SUPERCALC 2
£39.95 ● Amsoft/Sorcim (091 567 3395)
● All PCWs

SuperCalc 2 is definitely the most popular spreadsheet for the PCW although whether this is because it is the best spreadsheet or because Amsoft adopted it as their recommended spreadsheet is arguable.

It certainly must be regarded as a good compromise between the simplicity and flexibility. It is certainly easier to come to terms with than Cracker and yet still provides a wide range of features. Again it is worked on a system of easy to remember keystrokes and in case you don't find them easy to remember you are prompted through complicated processes with your options defined as you go along although. There are help screens which don't seem half as complicated as the Cracker ones.

You start off with a screen full of standard sized columns which you can vary in size to suit. SuperCalc does not have the same strict attitude towards formats as Cracker, which makes it far easier for the beginner although perhaps not as flexible for the expert. Like Cracker you can create 'executive command files' – series of keystrokes that you may need to repeat which can be run over and over automatically. You can also get set the direction that the cursor will move in automatically. So if you are entering figures down a column get the cursor to drop one cell each time or if you are entering figures in a row get it to move one

cell to the right.

The manual has been very sensibly laid out with a 10 minute guide to get you going and a pull-out reference card, although there is also all the in depth information quite well indexed in there as well.
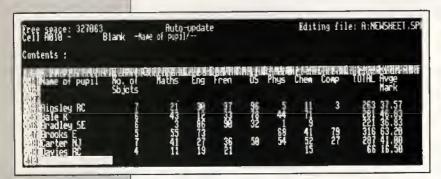
One slight problem with SuperCalc for 8000 Plus

A Name of pupil	B No. of Sbjcts	C Maths	D Eng	E Fren	F DS	G Phys	H Chem	I Comp	J TOTAL	K Avge Mark
001										
002										
003										
004 Ainsley RC	7	21	30	97	96	5	11	3	263	37.57
005 Bale K	6	43	12	33	78	44	71		281	46.83
006 Bradley SE	6	3	86	90	32	1	9		221	36.83
007 Brooks E	5	55	73			68	41	79	316	63.20
008 Carter NJ	7	41	27	36	50	54	52	27	287	41.00
009 Davies RC	4	11	19	21			15		66	16.50

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Free space: 327063        Auto-update         Editing file: A:NEWSHEET.SP
Cell A010 -        Blank   -Name of pupil/--
Contents :
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Name of pupil	No. of Sbjcts	Maths	Eng	Fren	DS	Phys	Chem	Comp	TOTAL	Avge Mark
Ainsley RC	7	21	30	97	96	5	11	3	263	37.57
Bale K	6	43	12	33	78	44	71		281	46.83
Bradley SE	6	3	86	90	32	1	9		221	36.83
Brooks E	5	55	73			68	41	79	316	63.20
Carter NJ	7	41	27	36	50	54	52	27	287	41.00
Davies RC	4	11	19	21			15		66	16.50

readers has always been the number of times the program has been modified. Minor changes were always being made that made any tip-offs printed a major headache as different versions needed completely different handling.

This causes problems in SuperCalc's main weak spot – printing. Some versions seem to use 10 pitch as standard and others 17 pitch. If you want to change this it can be a complicated process involving you in working out escape codes – a process many beginners may not relish.

Your size of sheet is limited by the memory size – certainly no more than 50k. This can be irritating for very large applications and you must split your spreadsheet into parts.

Verdict – Supercalc is perhaps the best compromise in the spreadsheet market. It is quite simple for the beginner and yet has enough depth to keep the expert reasonably happy.

MINI OFFICE PROFESSIONAL
£29.95 ● Database Software (0625 878888)
● All PCWs (Graphs 8000 only)

The spreadsheet on Mini Office Professional is only a small part of a total integrated package that also includes a wordprocessor, database, graphics module and comms package. As such it is by far the cheapest available and it would be almost churlish to dwell too long on what is missing and rather marvel at how much it does manage to cram in.

In many ways the spreadsheet is like a cut down version of Supercalc 2 with all the usual arithemical functions, replication and auto or manual recalculation. It cannot sort at all and as you can't import or export you can't do it any other way. You can't therefore use it as a database but as Mini Office has its own database this seems unimportant.

Printing features are particularly powerful if you are using an 8000 series machines (or a 9512 with a dot matrix printer). You can put columns or lines in italics or even print sideways – an advantage over more expensive competitors. The sideways printing is particularly useful for big applications and as the program claims to be able to handle applications up to 320k (in the 8512 or 9512) this could be vitally important.

The lack of import or export seems a major oversight in a program linked with a word processor but you can use information direct from the spreadsheet to create graphs in the graphics package – an easier method than in Cracker.

As usual the section of the manual covering spreadsheets seems to have been written by someone who wasn't totally sure what a spreadsheet was used for but you should be able to work out most of the functions not fully covered by trial and error. Might also be worth reading the 8000 Plus Mini Office Professional tutorial carefully next month.

Verdict – Certainly a strong possibility to anyone without a CP/M wordprocessor and/or a database. Despite its limitations it would still meet the needs of the average user. ■

Coming to terms

If you want to impress someone, here are a few favourite technical terms that can be dropped into any conversation about spreadsheets:

Cell – A spreadsheet is made up a small boxes where you can actually enter the information. These are set up in columns and lines so that you can pick out a particular box by referring to column and line numbers.

Format – You normally have to tell the spreadsheet whether you are going to enter numbers or text in a cell (or 'set the format' to be really technical). With most spreadsheets you have a wide choice of formats such as financial, integer (whole numbers) or even exponential notation (ie. writing 2,345,000 as 2.345E6 to keep scientists happy).

Replicating – The ability to copy a formula from one column to another and change all the cell references to suit.

Zap – You never seem to delete data from a cell, you always zap it. This is presumably because they can't think of any other command for the keystroke 'Z'.

SUPERCALC 2

PLUSES
▲ Wide range of fetures
▲ Good manual
▲ Sorts arithmetically and numerically
▲ Can store sequences of commands and run them from files
▲ Screen can be split into two windows

MINUSES
▼ Spreadsheet limited to 50k
▼ No graphs

RANGE OF FEATURES	5/5	EASE OF USE	4/5
PERFORMANCE	4/5	DOCUMENTATION	4/5
8000 PLUS VALUE VERDICT		5/5	

MINI OFFICE

PLUSES
▲ Good print facilities including sideways printing
▲ Can be used with graphics package
▲ Quite easy to pick up
▲ Can handle very large spreadsheets to 300k

MINUSES
▼ No import or export of data
▼ No sort facility

RANGE OF FEATURES	5/5	EASE OF USE	4/5
PERFORMANCE	1/5	DOCUMENTATION	4/5
8000 PLUS VALUE VERDICT		5/5	

QUICKIES!

Can you do joined-up writing? Can you write proper English? New fonts for LocoScript 2 and an English tester on test

WRITE RIGHT!
£9.99 ● Wadd Soft (0253 721303) ● All PCWs

Write Right! is a new addition to The Brain series of educational software for the Amstrad PCW. The program consists of 24 sets of multiple choice questions which have been designed to test and improve (if need be) the student's knowledge of the English Language.

All of the most important aspects of language learning are included in the program, such as proper sentence construction, punctuation, spelling and vocabulary. There's also a very useful set of questions on the first side of the disc which concentrates on pairs of words which are often confused, such as proscribe and prescribe, venal and venial, continuous and continual and so on.

Each side of the disc holds twelve sets of questions. Depending on the number you select at the control screen (or opening menu), you will be presented with up to twenty or twenty-five questions dealing with one of the above aspects of the English language. A typical vocabulary question is:

Which of the following is the most accurate definition of the noun PANTECHNICON?
1) Fireworks display
2) Person trained in more than one science
3) Large van

Having made your choice, you then press the appropriate number key. Immediately you will be told if your answer is correct or not. If it is not, you will be told why it isn't. If it is correct, but you're not really sure why, then you have the option of pressing the [E] key and a refreshingly simple explanation completely devoid of the terminology usually much loved by grammarians will be displayed on the screen. When you've answered all the questions in that set, your final score is shown as well as a percentage mark.

Write Right! promotes practical, modern usage of the English language; so you'll be pleased to hear that there isn't a single allusion made to the rain in Spain throughout the entire program. The program is also quite addictive: at times, you get the feeling that you're playing some sort of trivia quiz rather than improving your English. You're not likely to get bored quickly. But where the program could perhaps have done better is in making the questions progressively more difficult.

Still, Write Right! will be of real use to anybody who's still at secondary school and to those who feel that their knowledge of English grammar is not as sharp as it might be. It will also prove an invaluable learning tool for the foreigner getting to grips with the English language. ∎

```
QUESTION: 1                          WRITE RIGHT!
                    THE BRAIN
SCORE: 0/0                          VOCABULARY I

Which of the following is the most accurate definition of the adjective ABOMINABLE?

(1) Tibetan.

(2) Unpleasant.

(3) Loathsome.
```

RANGE OF FEATURES	5/5	EASE OF USE	5/5
PERFORMANCE	5/5	DOCUMENTATION	5/5
8000 PLUS VALUE VERDICT		**5/5**	

LOCOFONT 2
£19.95 ● Locomotive Software (0306 740606) ● 8000s only

Locomotive Software have now come up with a second batch of new fonts for the PCW's built-in dot matrix printer. Supplied on the LocoFont disc are six fonts: a flowing script style based on joined-up handwriting, a quaint, ornate Old English font ideal for publicising the occasional medieval banquet, and four relatively formal, general-purpose typestyles designed for work in small pitches.

Unfortunately, installing the fonts on your machine is, at times, a bit of a tortuous process involving copying the appropriate LocoFont files onto your LocoScript start-up disc via Drive M. The installation procedure also involves storing the details of the default font within the Printer Defaults option. The remaining fonts that you've also transferred will be stored in the settings menu for later selection.

If you're working with an 8256, you may find that, despite removing all you can from your startup disc, there is still too little space available either on Drive M or on the disc itself; the files are compressed to make them as small as possible but are still about 11k. Short of adding extra memory there's little you can do to remedy the first problem. You can get round the second by storing the font files on different discs.

From then on it's all downhill. All the fonts can be used for both Draft and High Quality printing in all available characters, although it's unlikely that you'll be able to appreciate the full effect of some of them in draft. The various specialist fonts included on the disc have been designed to look their best at 15 and 17 pitch and line pitch 8 (ie. eight lines per inch instead of the usual six) for documents which require more lines than normal on a page. The Settings menu will hold no more than ten fonts (if you're using this batch of fonts with LocoFont Set 1, for example), but it's a simple matter to remove files that are no longer required in order to make space for others that are.

The Penman and Old English fonts are well done though the others are unremarkable. It isn't possible to use more than one font in a given document; they can only be altered from document to document rather than from paragraph to paragraph. Overall, though, a nice way to spice up your output from LocoScript 2. ∎

```
research stations but capable of being transferr
farming operations could lead to a substantial i
most countries in the Northern hemisphere, the v:
:ry relies on milk production of Alpine and Saane
view of the recurrent food crisis in Africa, the
:ument the productivity of small ruminants, espe
smaller and in poorer countries, and particularl
```
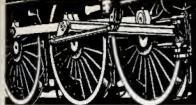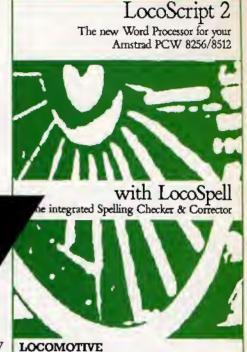
RANGE OF FEATURES	3/5	EASE OF USE	3/5
PERFORMANCE	4/5	DOCUMENTATION	3/5
8000 PLUS VALUE VERDICT		**3/5**	

COMMS A TIME

Part 7 of the series older than Coronation Street: Alec Rae breaks out of Mini Office's integrated package and meets the world through a modem

Comms ('communications' using a modem and a telephone line) is a world full of vague technical terms and totally inexplicable strings of numbers and letters – much like the Mini Office manual, some might say.

Put the two together and logically you should get a complete breakdown in communications. And yet strangely enough out of this chaos comes order...

D espite all the attempts to hide comms in a cloud of obscurity it really is pretty self evident once you get into it. And despite the gaps in the Mini Office manual it does give you enough to allow you to experiment and fill in the gaps yourself.

Although in reality comms opens up the whole world to you, in practical terms most people would find it difficult to find a sensible reason to modem text to Australia by satellite. The majority of users limit themselves to dealing with a bulletin board, a main frame computer linked to a telephone line which allows you to access all kinds of information, and send and receive messages from other users of the bulletin board.

There are all sorts of specialised clubs dealing with some really obscure subjects but probably the most important general bulletin boards are Microlink and Prestel. These allow you to access news services, share prices and train timetables. You can order a bunch of flowers to be delivered or book theatre tickets or hotel rooms. This is where the famous E-mail comes into play where you can send and receive messages by modem using your own electronic 'mail box'.

Here comms trouble
And it's here that you face the main problem with comms – the really long complicated commands that you have to remember if you are wanting to log on to a bulletin board.

It seems that anything that can really damage your

Function keys set for Telecom Gold

health (viz. drink, drugs, smoking and comms) all cost money. It costs you to buy the modem and the RS232 (the interface that sticks on to the expansion port at the back of your PCW to allow you to attach the modem cable) and the software. Then you have to join the bulletin board, you have to pay for every time you log on and at the end of the day you still have your increased telephone bill.

You can save money by logging on at off-peak times (ie outside working hours and especially the middle of the night – you can always tell comms freaks by their bleary eyes) but most enthusiasts still like to cut down the amount of time actually spent on line to a minimum.

This becomes almost an obsession – an obsession that can be eased with some of the clever features of Mini Office.

The other way of saving money on long distance calls (if you are outside London) is to go through a Packet SwitchStream, (the mysterious PSS casually mentioned in the manual) which allows you to access the bulletin board at local telephone rates (for a small connection charge).

However this really is complicated. To log on to Telecom Gold through a PSS, for instance, you have to type in such memorable codes as NTLGOLD901TYM [RETURN] and A21920100484. You get these in the documentation you will receive when you join the bulletin board – it varies according to the baud rate settings.

Strangely enough people have been known to forget these, so the Mini Office comms section has come up with a neat section to set complicated strings to each of the function keys.

Once set up, you don't have to type in NTLG.... etc etc. Press the [f1] function key and it appears on screen, just as you would do if you used SETKEYS.COM in CP/M.

Pick a key
To achieve this is easy. Run Mini Office and cursor on to 'Communications'. When you get the Comunications Menu move to the 'Function Keys' options and press [ENTER]. This gives you a list of the function keys (f1 to f8). Just move to f1 and type in the first part of the code ending with an up arrow (you get it with [EXTRA] and a semicolon). This acts like an automatic return – pressing f1 will now print out the whole line and [RETURN].

Then add each line of code in turn and you can even add in your personal box number and codeword (you need a

codeword to get access – so that no-one else can charge up hours of access time to your bill).

Having done this you can save these settings to disc, using the 'save definition' option. It will automatically offer you the name SETUP.KEY and simply pressing [RETURN] will save these to disc.

Thereafter every time you want to load these key settings just use the Load Definition option in this menu. You will be given the choice of all the files the program recognises as Setkeys type files.

Obviously if you have more than one bulletin board you may want to save a couple of setups under the names MICROL.KEY and PRESTEL.KEY for instance, but for some reason Mini Office only seems to recognise SETUP.KEY when it prints out the list of suitable files. Don't be fooled into thinking that you cannot load these files though. If you can remember the name, type it in when prompted and it will load normally.

Mini Office PROFESSIONAL

```
Mini Office PCW          Communications

           File transfer

        Protocol ... Xmodem
        Transmit file
        Receive file
        Exit



     Use ↓ and ↑ to select, then ENTER


         © Database Software 1988
```

It's parity time

The next stage is to set up your RS232 (the box that fits on the back) to the correct settings for transfer. This is where you enter the twilight zone of baud rates and parities.

If you are trying to log on to one of the standard bulletin

```
        RS232 configuration

   Receive rate ..... 1200
   Transmit rate .... 75
   Word length ...... 7
   Parity ........... None
   Stop bits ........ 1
   Screen format .... Dumb TTY
   Xon/Xoff ......... Off
   Load configuration
   Save configuration
   Exit
```

boards you have no problem. There is an option called Preset Systems which will automatically set up everything for Microlink or TeleCom Gold at 1200/1200, 1200/75 or 300/300 baud rate. It can also handle Prestel (Viewdata) at 1200/75, 1200/1200 or 2400/2400 baud rate.

What these figures mean is the rate at which you can transfer information back and forward. The first figure is the number of characters you will receive per second and the second is the number of characters per second which you can send a file at.

This will depend largely on what baud rates your modem can handle and what rates the bulletin board takes but generally you will want to have the rate as high as possible – although make it too high and you could have problems of corruption.

It is the work of a moment to load the configuration for Microlink, TeleCom Gold or Prestel (1200/75 seems the most popular) by simply cursoring on to the correct setting and pressing [ENTER]. To see the effect you can choose the 'Configure RS232' option and you will see the baud rate, parity, stop bits and so on that have been chosen.

If you are having to set up for another bulletin board or for connecting directly with another modem you may have to set this manually. Each of the headings toggles through all the options when you press [ENTER]. So, for example you could pick 9600, 4800, 2400, 1200, 300 or 75 baud for the receive or transmit rates. The most important thing is to make sure everything matches with the setup at the other end.

Again if you have a special setting you can save it (using 'Save Configuration') and load it ('Load Configuration') in moments. When saving the program will offer you the name CONFIG.CFG and, as usual, this is the only name it seems to recognise when it comes to loading. But, of course, if your memory is good you can use any name you want.

The Four Protocols

The other major concept you must come to grips with is what protocol you are using. When you get into the File Transfer option you will notice an option asking what protocol to use and it toggles between the four options. Protocols are basically systems of trying to make sure there are no mistakes in the data being transferred.

As all data is transferred by various high pitched squeaks and as British TeleCom phone lines often seem to have high pitched squeaks of their own, you can stand a risk of getting data corrupted in transfer – especially at high speeds. To avoid this you can use a protocol (the best known are XMODEM and KERMIT – both supported by Mini Office) which breaks the text into chunks and then works out a check number calculated from the value of all the letters and numbers in the chunk. At the other end the receiving computer is doing the same thing. After each chunk is transferred the two compare figures. If they agree you know that the data is correct. If not they try again until they agree.

If the computer or bulletin board you are in communication with accepts either of these just toggle to the suitable option. Otherwise you can use ASCII or Expanded ASCII which will allow a 7 bit system to handle 8 bit ASCII code numbers. Neither of these has any error checking. It is vital that both ends of the link are set to the same protocol.

Nice old buffer

To complete a really slick, money saving operation on line, you can make use of the buffer option. This allows you to load files into a memory buffer, either to tranfer or receive information quickly, and easily without having to go through the time wasting processes of having to open files.

The buffer can be on disc or on M drive and can be loaded before you log on. Transmitting from the buffer sends the data in an ASCII format along the line and when you receive a file it will automatically take it into the selected buffer.

The final option Screen Options is, as the name suggests, a method of setting the screen up exactly as you want it although it is most useful for setting details like Local Echo. In some links when you type in to the computer it shows up on the other computer's screen but not yours. This prints out what you are typing on screen and allows you to be sure you're not writing gibberish.

With everything set all you need do is cursor on to the Communicate option and dial the correct number with your modem. The screen clears and soon you will be in touch with the world. ■

What you need

To hook up to the outside world you'll need an RS232 interface (about £60) and a modem (about £100). They are advertised throughout 8000 Plus. You will also need to be a member of an electronic information service like Prestel or Telecom Gold. There was a feature on comms in Issue 19 of 8000 Plus (April 88) and a feature on using a modem and comms package for home banking appears in this issue on page 30

FLIPPING MAGIC

Split your PCW into two! Rob Ainsley (only half-schizophrenic) does a double take at Flipper

FLIPPER

£24.95 ● Software Imperatives (0453 886931) ● 9512s, 8512s and expanded memory 8256s

The PCW was originally conceived as a LocoScript only machine. Rather than have users fiddling about running an operating system and then a word processor, LocoScript is a self-starting disc: you switch on and put it in. Simple.

The problems start when you also run CP/M programs (which means everything else). LocoScript won't run by the side of your database, spreadsheet, games, desktop publishing program, or utilities. To get from one to the other means resetting the machine (an extremely time consuming exercise) and also means you can't transfer data directly from one 'environment' to the other.

So enter Flipper. New software house Software Imperatives have devised an installation program which can split your PCW into two, enabling you to run CP/M and LocoScript 2 side-by-side, switching back and forth by pressing [SHIFT] [EXTRA] [EXIT], the command which normally resets the machine.

Suppose you need details from your database to be included in a LocoScript document. You run up CP/M as normal, insert your Flipper disc and type FLIPLOC1. Follow on screen prompts and insert a LocoScript disc. You must leave at least 256k of space on the M drive (LocoSpell is out of the question) or Flipper has no space to run CP/M on the side.

Flipping away from you

LocoScript starts up as normal. Pressing [SHIFT] [EXTRA] [EXIT] now flips you straight back to the CP/M screen you just left, and [SHIFT] [EXTRA] [EXIT] again puts you

Anyone who uses LocoScript and a CP/M program must have faced the problem sometime. You want to look up an address in your database to insert in the letter you're writing. So you have to leave LocoScript, run up CP/M, run up your database, write down the address, reset the machine, re-run LocoScript, get into your letter again, find the piece of paper you wrote the address on...

Wouldn't it be nice if you could just flip between the two at the touch of a button? Well now you can, with Flipper.

immediately back to the LocoScript screen you left. You have to press [f7] 'Change discs' here to complete anti-crash procedures. The amount of free space shown on the M drive drops sharply and several 'hidden' files appear, showing that the CP/M environment on the side has been set up in the space that's apparently disappeared.

From now on you can proceed as normal, editing documents, saving, deleting and renaming files, formatting discs etc. and at any time just flip over to CP/M, where you can also proceed with the normal


```
CP/M Plus   Amstrad plc

v 2.1, 61K TPA, 1 disc drive, SIO/Centroni

A>flipcpm1

FLIPPER v 1.0
(C) Andy Wilton 1988
Serial no: 123456789ABCDEF

FLIPCPM1
This program flips between two CP/M
environments. Hit STOP to abandon
or any other key to continue.

f

Please wait...

Press SHIFT, EXTRA and EXIT together.

FLIPPER is now installed.

Pressing SHIFT, EXTRA & EXIT together
flips you between CP/M [i] and CP/M [ii].
You are currently in CP/M [i].

A>
```

```
Press SHIFT, EXTRA and EXIT together.

This is CP/M [ii]. It has more M:
drive space than CP/M [i], and can
run Stop Press™ safely.

A>
```
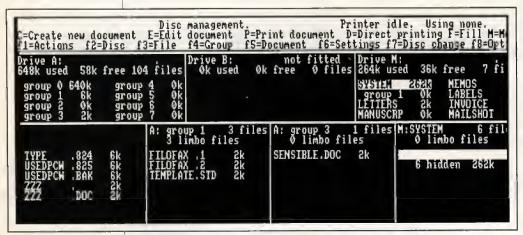
Will they get on?

Flipper works with LocoScript 2 but it's best to assume that it will *not* work with LocoScript 1. If you have an 8000 and haven't bought LocoScript 2 yet, you'll need it if you want to run Flipper. It seems to work fine with all versions of LocoScript 2 including Urdu/Arabic and Welsh variants (and of course with LocoScript on the 9512, which is LocoScript 2.11).

As for CP/M, there is no problem with word processors, databases, spreadsheets, BASIC, graphics or desktop publishing programs. Problems will occur with games – if a game doesn't respond to [SHIFT] [EXTRA] [EXIT] (Scrabble, for example) it won't work

under Flipper. Also, you can't run the Flipper installation programs from within an application (the 'No file' menu of NewWord, for example) or with a debugger in memory, RSXs installed (eg. with WriteHandMan) or from a SUBMIT file.

The big exception to all this is Mini Office. Unfortunately you just can't run Flipper with it – it refuses to be fooled by any of Flipper's ruses and attempts to flip are fruitless. Still, as Mini Office is an integrated suite by itself including its own database, word processor, graphics package etc. you've less need to flip out of it.

```
                Disc management.              Printer idle. Using none.
C=Create new document  E=Edit document  P=Print document  D=Direct printing F=Fill M=M
f1=Actions  f2=Disc  f3=File  f4=Group  f5=Document  f6=Settings f7=Disc change f8=Opt
Drive A:                     Drive B:        not fitted  Drive M:
648k used   58k free 104 files  0k used   0k free    0 files 264k used   36k free    7 fi
  group 0 640k    group 4   0k                        SYSTEM   268k    MEMOS
  group 1   6k    group 5   0k                         group 1   0k    LABELS
  group 2   0k    group 6   0k                        LETTERS   2k     INVOICE
  group 3   2k    group 7   0k                        MANUSCRP  0k     MAILSHOT
                          A: group 1    3 files A: group 3   1 files M:SYSTEM     6 fil
                             3 limbo files         0 limbo files        0 limbo files
TYPE    .824   6k     FILOFAX .1    2k   SENSIBLE.DOC   2k
USEDPCW .825   6k     FILOFAX .2    2k                              6 hidden  262k
USEDPCW .BAK   6k     TEMPLATE.STD  2k
ZZZ            2k
ZZZ     .DOC   2k
```

functions there. Every time you flip you get back where you left off in the other 'environment'.

You now have two memories, effectively closed off from each other, but if you save a file to disc in either CP/M or LocoScript it will be accessible from the other. For example, if your database lets you export data, you can select all debtors' names and addresses, save them to disc, flip across to LocoScript and insert the names and addresses immediately into a document with 'insert text'. Conversely, saving an ASCII file of LocoScript data to disc and flipping to CP/M would enable you to use that data immediately in your database or spreadsheet (if they can import data).

An alternative program FLIPLOC2 makes the space for CP/M to run in larger than the space for LocoScript, and is useful for running large CP/M applications. It does squeeze LocoScript very tightly indeed though.

Flip into something more comfortable

There's a similar utility to split your PCW into two CP/M environments. This would let you run Protext, perhaps, and SuperCalc 2, for example, side-by-side, switching between them with [SHIFT] [EXTRA] [EXIT]. As above, you return

with the document or spreadsheet exactly as it was when you left it. One of the CP/M environments you have is a bit larger than the other, and is big enough to run most programs (Stop Press for instance). To remind you where you are the prompt for the larger environment, CP/M[ii], is A> with a double angle bracket.

A utility program with Flipper lets you save your currently 'dormant environment' – ie. if you're in the middle of a complicated Cracker spreadsheet and it's time to go to bed, you flip over to the other CP/M environment and FLIPSAVE. This saves the CP/M you've just left in its current state to disc as a *very* large file (possibly too big for an A drive disc on an 8000). However, the advantage is that next morning, you run up Flipper again and use the FLIPLOAD utility to restore the situation you saved last night to the other CP/M environment. After about 30 seconds you can flip across to the other CP/M environment and there is your Cracker spreadsheet (or database or desktop publisher in mid-page makeup) exactly as you left it last night.

This would be useful if you want a particularly complicated program used by non-computerate operators. All they have to do is FLIPLOAD your saved situation and they can carry on entering data or whatever without having to battle through to that part of the program by themselves.

For programs that don't work with Flipper's FLIPCPM1 program, a special emergency program FLIPCPM2 is supplied. It creates two CP/M environments as above, but the PCW is fooled into thinking that one of them is an 8256 (even on a 9512) and any program (almost, see the box) which works on an unexpanded 8256 works in this environment. It's a bit trickier to set up, and so FLIPCPM1 is the program you'd use normally.

Another utility FLIPKILL is supplied which allows you to return the PCW to its one-machine state, so that [SHIFT] [EXTRA] [EXIT] will reset the machine as normal.

Many a flip...

Because Flipper does some extraordinary things, there can be odd side effects of using it. If, for example, you flip while the disc motor is running (just after reading something from disc perhaps), the motor will continue to run indefinitely, and maybe even crash. If you tried to flip while in the middle of printing, you'd be asking for trouble – and damage to the print head. You'd have to reset the print head after each flip.

Another odd thing that can happen is if you FLIPKILL after running your 'bogus 8256' in FLIPCPM2. Your PCW is now as normal but is convinced it's an 8256 until you restart it, meaning you can't access 256k of memory. Also, you may find SETKEYS doesn't work as expected if you run it after installing Flipper, and running FLIPCPM2 can generate spurious [EXIT]s when you flip, which could prove a nuisance in the program you flip to. A utility is supplied which should clear up any problems but doing anything like redefining the [EXIT] key in your SETKEYS file would be asking for trouble. Finally, Flipper needs an empty M drive to start off with and will clear out whatever's there when it runs, though of course you can put what you like in there once Flipper is installed.

If you are happy to do everything from within LocoScript, you won't need to worry about CP/M and Flipper won't change your life. However, regular users of LocoScript and even one CP/M program will find it very useful. The time and trouble it saves will make it well worth the investment, and it certainly seems to be unique. ∎

Public health warning

Flipper is nothing to do with Locomotive, who wrote both CP/M and LocoScript – in fact they were quite surprised to learn that flipping was possible!

So, while it seems to work fine on currently available variants of LocoScript 2, there's no guarantee it will work on future versions if Locomotive should decide to rewrite the program (to incorporate new features or to make it more efficient). And if Locomotive were ever to bring out an add-on to LocoScript – a database program, say, just

for the sake of argument – that probably would not work with Flipper either.

A plea from Locomotive: please don't ring them asking for technical advice on Flipper, as it isn't one of their programs. As far as they're concerned it's an interesting little program but not part of the real 'LocoScript family'. In particular they were worried about possible damage to the printer head if the two environments 'thought' the print head was at different places.

FLIPPER

PLUSES
- ▲ Quick, simple, easy to use
- ▲ Can save a lot of time and confusion
- ▲ LocoScript 2/CP/M or CP/M/CP/M
- ▲ Works with most CP/M programs and BASIC

MINUSES
- ▼ Won't work with Mini Office or some games
- ▼ FLIPSAVE doesn't really work on 8256
- ▼ You must be careful of hardware when flipping ie. state of printer or disc drive

RANGE OF FEATURES	2/5	EASE OF USE	5/5
PERFORMANCE	4/5	DOCUMENTATION	3/5
		8000 PLUS VALUE VERDICT	4/5

CASE IN POINT

There are plenty of stories that could be told about Jeffrey Archer – his rise and fall and rise in business, his ups, downs and subsequent ups in politics, his legal battles with and victories over, the tabloids...

This isn't about any of them. It's about Archer the writer, a successful novelist who never wrote a word until he was 34, a longhand-only man who was suspicious of this computing business but has found, much to his surprise, that the PCW has become an invaluable part of his writing process.
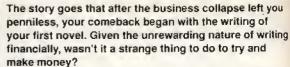
Jeffrey Archer doesn't do things by halves. He doesn't just have a working flat in London, he has a luxury tenth-floor riverside apartment with sweeping views of the City; it begs the sort of description that would bring tears to the eyes of even a hardened Estate Agent. The Houses of Parliament are just over the water, so close you can almost hear the cries of 'Order' wafting across. There are two PCW 9512s, one each to a large table on which several piles of neatly arranged correspondence and manuscripts lie.

It was a sunny August morning, and he'd put aside some of his day to talk to 8000 Plus. Everything about an Archer interview is very brisk and businesslike – the telephone rings constantly, secretaries and assistants go to and fro asking him what to say to the lady on the phone or what to tell the man in Korea – but it's all under control. When he answers your questions, Archer doesn't fudge, or hesitate, or erm or ah. He gives the impression of a man who knows the answers before you've asked the questions.

How it started

8000 Plus: What was your writing background – did you write when you were young?

Jeffrey Archer: No, not at all. I didn't write a word until I was 34. I suppose English was always my favourite subject at school, though, and I used to be in the school play every year.

The story goes that after the business collapse left you penniless, your comeback began with the writing of your first novel. Given the unrewarding nature of writing financially, wasn't it a strange thing to do to try and make money?

It's one of the great myths that I wrote *Not a Penny More, Not a Penny Less* to make money. That's not the case. In fact, I wrote it to exorcise myself of the disaster I'd suffered in business. I needed to work, and I found that writing a novel was the best way I could make myself work. The first half of the book is autobiographical, the second half invention.

Whose idea was it?

Totally my own.

How did you sell the idea to the publishers? Who made the first approach?

I talked to Deborah Owen, a literary agent I knew, and she kindly agreed to read the manuscript.

She had seventeen refusals from publishers before it was finally accepted. It was a complete surprise to us all when it became a best-seller.

How easy was it to write a book, never having written before?

There was no magic formula – it was very hard work indeed. Harder than anything else I've ever done. I had a strict regime – I used to get up at six in the morning, work for two hours, have a break, work for two hours, have a break, and so on, until I went to bed. The problem is, each book seems to get harder.

How many rewrites were needed?

There were ten drafts, all of them handwritten and then typed up by a secretary on an electric typewriter. I did corrections in pencil on each draft and then got it fully re-typed.

Matter of honour

What makes you continue to write books?

I certainly don't do it just for the money – I think it's the desire to work, and of course I like the results.

Politics is and always has been my profession. I'm a politician first and a writer second, though the writing earns the money, if you like.

I always stick to the same publishers – I don't like to change. I have a long term relationship with Hodder and Coronet, who publish my books in England.

Does the whole business of having to keep finding new things to write ever get you down?

No, not at all. I'm 48 now, and I've never been cynical. I can't take cynicism in people. Life's too short.

What about marketing and advertising?

Marketing and advertising only counts for about three weeks. After that it depends on the book. No amount of advertising will sell a bad product, and the same holds for books. The public decide to buy the next one because they liked the last one.

The standard question – where do you get your inspiration?

Imagination, talent, luck, call it what you will – I think it's something you either have or haven't got. I always have the next three or four plots of my book or plays mapped out in my head.

Plot is everything. You can't write without knowing exactly where the story is going, and I always make sure I have the plot complete before I start writing. Then I do the

NOT A PCW LESS

Rob Ainsley talks to Jeffrey Archer about his writing... and his PCWs

first draft. I never know what's on the next page, and I think that's good, because neither does the reader. Looking through the first draft I might then pick out some things which don't tie up – I marry this chap off in chapter eight and realise he's already married in chapter four, perhaps – so that gets put right in the second draft, though I always know the plot.

What advice would you give to aspiring authors?
Don't imagine that when you've finished writing the book, you're at the end. You're only about a quarter of the way there. It takes about two years for the whole thing – rewrites and so on. It's a slog, a real slog.

Time is money
How has getting your PCW 9512s changed your writing?
Mainly time, it's made a great deal of difference. The way I write is to do everything by hand. I then get it keyed onto disc for me and printed out. I do the corrections in pencil and get it all printed out again.

On the seventh or eighth draft there might only be very fine changes – a comma here, an extra word there, a paragraph added, and so on. Because it's all on disc it means the changes can be made and the new draft printed out almost immediately.
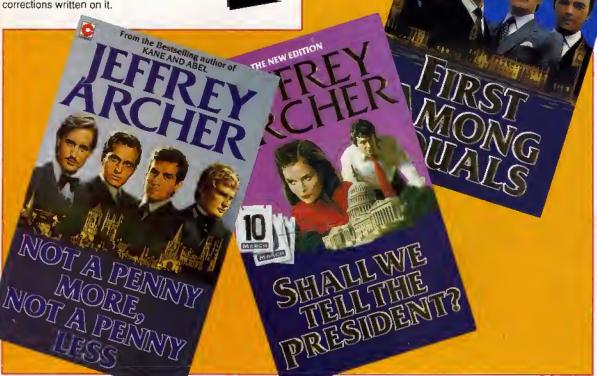
Before now it used to take about six weeks for a draft to come back – now it takes a couple of days. Here, for example, is a play I'm writing that's just come back from my typist. It's a thirteenth draft which has come back a few days after the previous one. There are hardly any changes in it, but nevertheless it's extremely convenient to be able to see the amended version without corrections written on it. ▶

A Quiver Full
The list of best-sellers that have flowed from Jeffrey Archer's keyboard would need a PCW to list.

Starting with "Not a Penny More, Not a Penny Less" he has produced "Shall we Tell the President","Kane and Abel","The Prodigal Daughter","First Among Equals" and "A Matter of Honour".

He has also started the publishing world by producing a successful book of short stories - "A Quiver Full of Arrows" and even a West End Play "Beyond Reasonable Doubt".

Man of letters

As well as churning out innumerable words of draft manuscript for plays, novels, collections of short stories and the occasional television programme, Archer finds his PCWs are invaluable for the mountains of correspondence he generates. Much of their work is taken up in business letters and reports.

His secretaries find the spell-checking facilities of the 9512 invaluable – every letter is checked before it goes out – and like the fact that fifty letters of similar content need only be typed once and then slightly amended for each recipient!

The 9512s scored over the 8000s for the superior quality of the daisywheel print, not only as Archer prefers to have top quality drafts when correcting manuscripts (well, he can probably afford to go through rather more carbon ribbons than most people) but because the smart electric typewriter-like output is essential for his business letters.

They find LocoScript (and LocoSpell) easy to use and well suited for the job – LocoSpell unerringly picked out 'constitutncies' and suggested 'constituencies' as a replacement in the letter his secretary was checking – though they haven't quite fathomed the mysteries of LocoMail yet!

So you never type directly into the machine yourself?
No, everything is keyed in for me. I must admit, I'vealways been a bit frightened of using a word processor – when you get used to your own way of writing, you feel you might somehow lose your inspiration if you change. It takes a great deal of work to evolve your own style, and you think the magic may leave you if you start trying to alter it.

It doesn't worry me – half the authors in the world still write longhand. So I go on hand-writing everything. The great benefit, as I say, is the extra time it gives you. It really makes a lot of difference.

Ten years ago. I would have been very anti all this. It surprises me that I find them so indispensible now. We live in a machine age now, it's marvellous really. It's transformed life completely.

Mary, my wife, is much happier with computers than I am, though she has a science background of course. She uses an Olivetti laptop and takes it with her round the world. She can do all her writing direct to disc on the spot, which she finds invaluable.

Three's company
What's your writing system?
I have three secretaries. This is the secret of success! Correspondence, organisation, typing manuscripts – they do

it all. I couldn't manage to do what I do otherwise.

I always write and correct drafts in two-hour sessions, getting up at six. I don't like being casual about it – I never work on the train or plane, for example. Though I'm going to Korea for the Olympic games in a few weeks and the flight is eight hours, so I may be able to do some corrections on the plane.

I write about 1500 words a day. It works out more if you count corrections and drafts, but in real terms it's about 1500. I reckon on it taking about 1000 hours' work to complete the writing of a book, though as I say that's not the end of the story. It's about two years between starting a book and it being published.

To what extent do your political duties affect your writing?
I dont think they have any adverse effect. The only problems would be those of making the time to write, but I've managed to pace myself so that politics doesn't interfere with my writing.

There's no need to rush a book. A book or play takes one to two years of your life, so it would be foolish to try and write a book or play every year. Politics is my first love. I wouldn't want to go touring the country promoting my books.

In fact, politics puts me in touch with people and ideas, so I consider it an advantage for my writing. You're never short of material.

Do you consider yourself a perfectionist? Has the use of a word processor made you more or less of a perfectionist?
I am a perfectionist to myself. If I wrote a book and I knew I could have written it better, I would be disappointed in myself. When my books go to the publisher, I make sure they're as good as they can be. Then any criticism they receive is fair enough.

I don't think I have become more or less of a perfectionist since getting the Amstrads. I still do the same number of drafts of everything. And the manuscripts still reach the same stage of completion, but much faster, because small scale corrections can come back in a very short time.

Personal favourites
Which authors do you read?
I mainly read non-fiction. I've just finished Dimbleby's *Oceans Apart* which I think is outstanding. I also read *Prince of Tides* recently by Pat Conroy which I thought was good too.

As for fiction, I think very highly of Scott Fitzgerald, Graham Greene, and of course Charles Dickens – a great storyteller.

Which of your own books is your favourite?
They're all favourites in different ways. I'm very sentimental about *Not a Penny More, Not a Penny Less*, because it was my first novel; *Kane and Abel* was the biggest success in terms of sales, and the critics' favourites were my short stories.

I've been invited to Tokyo for a presentation of the Japanese translation of *Kane and Abel*. It's been translated into 27 languages in 61 countries. They tell me I'm the first foreigner to sell a million copies of a book in Japan – the idea of the two boys being born, one with everything and one with nothing, appeals to them very much. I have a great respect for the Japanese.

What would you like people to say about your books?
That they were entertaining, a good read, and that they couldn't put them down. ∎

Are you a case?

Every month *Case in Point* looks at how the PCW has affected someone's life. You don't have to be a famous author; in the last few months we've had articles written by a fire officer, a teacher, a home maker, a health club proprietor, a Czech television presenter, a writer, a costume cataloguer, a dental surgeon, a nurse, a science fiction desktop publisher, an archaeologist, a business consultant...

How has the PCW changed your life, for better or worse? We've read a million stories about LocoSpell replacing 'Magdi Yacoub' by 'maggot' and seen innumerable treatises on Find and Exchange, but we welcome lively accounts of the problems and successes you've had with your machine, preferably ones with an interesting angle to them.

We're especially keen to see new or unusual uses for the PCW, to read about the strange places the machine turns up in, and

to find out about obscure software that should be better known – or famous software that should be forgotten. Your experiences could save someone else a lot of time and money wasted.

We invite contributions of about 1,800 words, payment being our usual generous rates. Articles with interesting illustrations, photos or printouts, submitted double-spaced on A4 or continuous paper, stand a much better chance of making it into print than ones with nothing to accompany the text. And please include an sae!

Don't send in a disc first off –if we like your article and want to publish, we'll be in touch. Your immortality and financial security are guaranteed if you succeed, so get writing! Send your submissions to *Case in Point, 8000 Plus, 4 Queen St, Bath BA1 1EJ*, and please allow us a month or two to get back to you.

BANKING

OPEN ALL HOURS

Andrew Bibby opens up a world of banking – without crossing your own threshold

"**H** ome banking?" said an official working for one of the High Street banks rather sceptically. "What does it offer? After all, you can't get cash dispensed out of your computer or television set."

And, of course, on this point he was right. Whatever else your PCW may do for you, you can search the small ads in vain for that convenient add-on peripheral which will produce crisp £5 and £10 from the innards of your Amstrad. Or save you a draughty visit to your nearest hole-in-the-wall cash machine.

It's a pleasant fantasy to think that the day may come when even this may be possible – an electronically authorised print-your-own-banknotes service, in the privacy of your own home. Mind you, Alan Sugar would have to improve the PCW printer's capabilities first.

But, even with this limitation, home banking has begun to shake off the image it was lumbered with in the early '80s, of an expensive toy for the technology freaks. The growth in home computing, and the increase in the number of home and business users who have discovered the world of comms waiting for them on the other side of a modem, have given a boost to the concept.

On access

The central idea behind home banking is that it allows you, the customer, direct access to the bank's own computer systems, so that you can get information about your account. You can then give instructions as to what you want done with your money, at almost any time of the day or night.

This is obviously a useful service, particularly if you find it difficult to contact your branch during office hours. It's also very much in the bank's own interest, since it cuts down on the volume of paper, and the number of staff, needed to manage your banking requirements. In fact, home banking is just one of the developments in electronic banking that have been transforming Britain's banks recently – the network of ATMs (cash machines) is another example, and so too is the forthcoming expansion in electronic shopping (EFTPOS), which it is hoped will cut down on the number of cheques we write.

Tying in Notts

The home banking story in Britain began in the Midlands, back in 1983, when the Nottingham Building Society first introduced its 'Homelink' service. Using the data transmission facilities of Prestel, Homelink allows investors to check their account balances, see recent statements, and arrange to pay bills. The Nottingham has also linked up with the Bank of Scotland, so that a bank current account can be run in tandem with the interest-bearing building society account.

Nottingham Building Society is one of the middle-ranking building societies, with a regional network of branches, but without the national influence or presence of the biggest societies, like the Halifax, Abbey National and Nationwide Anglia. Homelink was launched in the hope that it would attract new customers from outside the east Midlands area, without the necessity for the Nottingham to invest in the bricks and mortar of an elaborate and expensive branch network.

It was a brave venture. Some would say foolhardy. Andrew Milner, Assistant General Manager, describes their decision as "incredibly brave in retrospect", and admits that Homelink, with only some thousands of users, hasn't come up to original hopes. Perhaps the Nottingham was just too small to be able to promote the home banking concept properly.

Ahead of their time

But perhaps they were ahead of their time. In 1983, most users had to obtain Prestel through a special terminal and keyboard, which plugged in to an ordinary television set. The arrangement was cumbersome, and it never really caught on with consumers. Since that time, however, a lot has changed. An increasing number of home computer users have decided to go on-line, and sign up for Prestel.

In 1985, the Nottingham Building Society's original partner, the Bank of Scotland, launched its own home banking service, HOBS (Home and Office Banking), which also uses Prestel as the data transmission agent. HOBS has been promoted much more intensively, partly as a way for the Bank of Scotland to get a toe-hold south of the border – in the same way the Nottingham Building Society saw electronic home banking as a way to reach customers in areas where it didn't have branches.

Electric HOBS

Although 'home banking' is still the generic name used, the Bank of Scotland has switched much of its marketing strategy for HOBS away from the personal banking customer towards the small business user, accessing the service from an office-based personal computer. The bank say that 60 per cent of their new applications are from business users.

Finally, last year another Scottish bank, Clydesdale, launched TeleBank, a similar scheme to HOBS, although this time not based on Prestel but on another viewdata network called Fastrak. Fastrak is used primarily by travel agents for booking holidays, and has the advantage over Prestel of not requiring quarterly subscriptions. It's also marginally cheaper to access.

Clydesdale have kept fairly quiet about TeleBank during its first year of operation, but they recently beefed up the service by adding a telephone call-up facility (see box). They also promise a major development to the service shortly.

You need
To get into communications (ie. enable your PCW to talk to any other computer, such as your bank's) you need a modem (see the other note) an RS232 interface (advertised throughout 8000 Plus for £60 or so) and communications software (such as that on Mini Office, described in detail in this month's Mini Office article on page 20).

Clydesdale, originally the Scottish arm of the Midland Bank, were recently cast adrift by their former parent company so they too are keen to find customers outside Scotland.

Going on-line

This then is the current choice open to you, if you want to convert your Amstrad PCW word processor into a home banking terminal. But how do you set about doing it?

Firstly, if you haven't already, you will need to go on-line – and that means a modem, a serial interface unit and adequate software to handle viewdata (unfortunately MAIL232 package, bundled free with your PCW, isn't up to the job).

Except for Clydesdale's TeleBank, you'll also have to become a Prestel subscriber, and meet their quarterly charges (£8 for individuals, £18 for businesses). The Bank of Scotland, Clydesdale and Nottingham Building Society all charge a monthly fee for the home banking service (though Nottingham waive this, if you have an average of over £1200 in your account). And finally, when you use the service, there will be viewdata user charges to meet (up to 7p a minute during daytimes, but much cheaper – or even free – for evenings and Sundays), plus the ordinary cost at local rate of using your phone.

In other words, it's not cheap – though for your outlay, you'll also have access to all the other Prestel, Email and bulletin board facilities.

But, say the banks, home banking does allow you to keep up-to-the-minute control of your money and that can be a way of saving unnecessary bank charges and interest. You can also shift your spare cash out of your ordinary current account into an interest generating account at the touch of a key on your PCW keyboard.

In the balance

In fact, once you have accessed the home banking service, you are faced with a number of options to choose. If we take HOBS as an example, for instance, the main menu offers you eight services. You can, for instance, call up full details of your bank account(s) with the Bank of Scotland on screen. It's possible to check the current balance on each account, see if any items are pending or if any bank charges or interest have been levied. You can also inspect a statement of up to 600 transactions over the previous three months. (The bank also send ordinary printed statements regularly.)

Another useful facility is the opportunity to inspect the Standing Orders and Direct Debits you have authorised, and check when the next payments are due. So if, in a rash moment, you sign a standing order mandate for an insurance policy with Dodge Gee Financial Services Ltd, you'll be able to check through HOBS exactly how often and how much you will be paying.

Or you can make use of the automatic bill-paying facility, which for many people may be the most useful aspects of home banking. A large number of organisations and companies, ranging from the AA to Zales the Jewellers, and including the obvious regular bill-senders like British Telecom, British Gas and the credit card companies, can be paid automatically through HOBS.

You send an initial signed payment mandate to the bank, and then just key in the correct code for the company and the amount you want to pay every time a bill arrives. You can even arrange for the actual transfer of the cash from your account to take place anything up to a month in the future. So, for example, you can get the full credit period from your credit card without running the risk of forgetting to make the payment.

You can also subsequently cancel any of these advance payments – so if you suddenly find yourself short of cash, you can decide after all not to pay off all

Modems

Some good value modems are the Demon II from Dataphone (0733 230240) for £90, the Nightingale (Pace, 0274 488211) for £100 and the higher specification WS4000 (Miracle, 0473 216141) for £200.

Telephone extra

If you haven't yet forked out for comms software and hardware for your PCW, there's another alternative open to you if you'd like to get a taste of home banking. Several of the banks are now offering cheap (or even free) home banking services, making use of another miracle of telecommunications – the humble telephone.

What began last year as a toe-in-the-water experiment by the Nationwide Anglia (keen to push their FlexAccount banking service) and by TSB England and Wales, has now been embraced by NatWest and Lloyds – and the other big banks are taking an interest, too.

The advocates of the telephone as the delivery system for home banking claim it has one advantage over the computer/modem or television/viewdata combinations. They argue that the service offers the customer the chance to manage their bank accounts and pay their bills from the car phone or the villa abroad – anywhere, in fact, where a telephone can be found.

TSB's Speedlink service is typical of what's on offer. To operate it you need either a multi-frequency phone (one of those new BT phones which emit an audio 'bleep'), or alternatively a dual-switching phone or inexpensive tone pad. You dial the TSB mainframe computer, and sign on by giving your bank account number, Speedlink number, and then your four-digit security PIN (personal identification number).
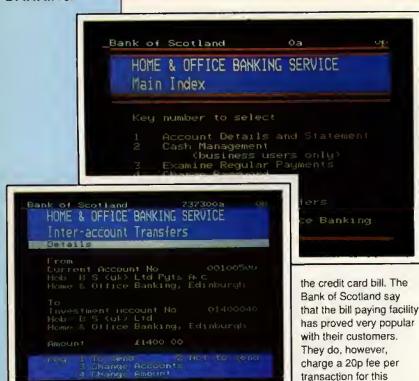
Confused?

Once upon a time, everything was nice and simple in the world of the financial organisations. You went to a bank for your banking requirements, to a building society for a mortgage, and to an insurance company if you wanted life insurance arranged.

Now it's much more confusing. The divisions are becoming blurred, and since January 1987 the building societies have been able to offer most of the banking services formerly offered just by the clearing banks. In fact, the Abbey National have announced that they want to change legally from a building society into an ordinary public limited company.

In exchange, the banks – and others – have been keen to enter the mortgage business (and simply everyone is trying to purchase estate agents). In the short term, it may mean that the customer has more choice. In the longer term, many of the traditional High Street names could get swallowed up in giant financial conglomerates.

transfer facility is likely to be useful. The Bank of Scotland encourage their HOBS users to open a high-interest investment account as well as the ordinary cheque account, and to switch any spare cash out of the current account whenever possible. The special HOBS investment account pays a competitive rate of interest (currently from 5.75 per cent to 7.67 per cent net, depending on the size of the deposit), which means that you can recoup some of the expenses involved in home banking.

Both Nottingham Building Society's Homelink and Clydesdale's TeleBank offer very similar facilities, including arrangements for electronic bill-paying. Costs are similar too (as the table shows) although TeleBank users benefit a little, since Fastrak works out cheaper than Prestel. Prestel recently revised (ie increased) its charges, though HOBS users on Sundays or during evening hours are able to bypass Prestel's new 1p a minute rate, and log-on without payment.

Safety first

The question which home banking sceptics often ask is — it is safe? Can you really rely on Prestel and the BT telephone network to carry confidential information about your banking affairs from your bank's mainframe to your home computer, and back again? The banks are aware of the fears — and of the challenge that they could be setting for hackers — but claim that sufficient safeguards have been built in to their systems to protect the customer, and themselves.

Each system requires a number of codes to be entered by the customer. To access information through HOBS, for example, you will need the usual ID and password to enter Prestel. You then have to enter a second set of codes, before you can enter HOBS itself.

Remembering all these passwords, and entering them correctly, can in fact be one of the worst parts of home banking. It's important to get them right, however. If you key in the wrong codes three times in one day, HOBS will close down your access to the service, until they have had a chance to contact you and reauthorise you — the home banking equivalent of having your cash-point card swallowed by the cash machine. Not a pleasant experience.

the credit card bill. The Bank of Scotland say that the bill paying facility has proved very popular with their customers. They do, however, charge a 20p fee per transaction for this operation.

Can you manage?

Business users who are prepared to pay an additional £5 a month also have a further service available. Called 'cash management', this allows you to see at a glance full details of the cleared funds in your accounts, (as opposed to the overall stated balance, which includes cheques recently paid in which haven't yet been processed by the issuing bank.) The cleared balance is the money you know for sure you have available for use — a useful additional piece of management information in businesses which are trying to maximise the use of their capital.

Even for the home user, however, the inter-account

Who does it?

BANK OF SCOTLAND
name: HOBS (Home and Office Banking Service)
means of delivery: Prestel viewdata
cost: a) Prestel subscription (£8 per quarter private, £18 per quarter business); standard Prestel accessing charges
(7p a min 8am-6pm Monday-Saturday, otherwise 1p or free).
b) Bank subscription:£2.50 per month for individuals: £5 per month (£10 per month with cash management facility) for businesses.
c) Ordinary BT phone charges (local rate)
services: balance enquiries and statements, transfers (high interest account), bill paying, standing orders details, cleared funds details(business users), currency accounts
more information:
031-343 7090 (On screen Prestel *6562105#)

NOTTINGHAM BUILDING SOCIETY
name: Homelink
means of delivery: Prestel viewdata
cost: a) Prestel subscription (£8 per quarter private, £18 per quarter business); standard Prestel accessing charges
(7p a min 8am-6pm Monday-Saturday, otherwise 1p).
b) Homelink subscription: £2 per month (free for users keeping an average balance of £1,200 or more)

c) Ordinary BT phone charges (local rate)
services: may be run in conjunction with Bank of Scotland current account; balance enquiries and statements for building society and bank accounts, transfers, bill paying, mortgage account
more information:
0602-481444 (On screen enquiries Prestel *4440043#)

CLYDESDALE BANK
name: TeleBank
means of delivery: either through viewdata (Fastrak), or by telephone (voice recognition option).
cost: a) Fastrak – no subscription. Usage charge 5p a min 8am-6pm Monday-Friday, 8am-1pm Saturday, otherwise free.
b) TeleBank subscription: £4 per month for personal users, £14 per month for business users.
c) Ordinary BT phone charge (local rates for 90 per cent+ of users through Fastrak): ordinary BT rates if you use the telephone option.
services: balance enquiries (real time balances) and statements, standing order details, cleared funds available, transfers (high interest account), bill paying.
more information:
041-248 7070

Ordinary banking charges not included in cost shown

THE SECOND HAND PCW

A few ideas on the used PCW market

'PCW 8256, first registered 1986, one careful owner from new, only 40000 words...'

Sound a joke? Well, there is a small but definitely alive second-hand PCW market. If you're looking for a PCW and can't find what you want new – or if you want to save a few pounds – the used PCW scene could well be worth looking into.

People sell computers for roughly the same reasons as they sell their cameras: not because they (the computers) are breaking down but because they want to 'upgrade' to a more sophisticated or more expensive model. The fact that so few used PCWs ever appear on the market shows a) how well everyone takes to them, despite many of them being first-time computer buyers, and b) how well the PCW suits its job of being a word processor-cum-general purpose micro. There's not much reason to upgrade if the machine fulfils its purpose well enough. Even now, three years after the launch of the 8256, nothing has supplanted the PCW as the best inexpensive word processor and computer.

A fair price for a PCW obviously depends on the amount of wear on the printer and keyboard, but assuming they're OK, there's no particular reason why the PCW should depreciate in value that much. The software doesn't deteriorate and the electronics have a lifespan far longer than the hardware – the disc drives will go before the internals do. If you buy a used PCW in good condition, you can reasonably expect another two to five years' useful service from it, maybe longer. Given the current new prices of £349 (£401.35 inc VAT) for the 8256, £449 (£516.35 inc VAT) for the 8512 and £499 (£573.85 inc VAT) for the 9512, used prices for a machine in good condition might be as follows. Under a year old, you might pay around £300-£350 for a 9512 and £250-£300 for an 8512 or 8256. Between one and two years old, you would expect prices of £200-£250 for a 9512 and on or about £200 for an 8256 or 8512. If you buy an 8256 or 8512 over two years old you wouldn't pay more than about £150 unless it had hardly been used.

You will probably be able to bargain over the software packages the seller has bought for the machine and pick them up for a few pounds each.

Key pinpoints

The only things which deteriorate significantly with age are the pieces of hardware, in particular the keyboard and the printer. If you were buying a used car, you'd go for a test drive. So, when buying a used PCW, do the equivalent – create a short text document containing all the letters. Do any of the keys on the keyboard stick, or do they feel hard or spongy instead of springy? When the document prints out, are all the pins on the printer (if it's a dot matrix) striking? If not, the letters will come out incompletely formed.

You can fix these yourself with a bit of ingenuity (see Tipoffs, September 87 for keyboard renovation, February 88 for printer pin reassembly) and of course you would clean up your printer heads anyway on purchase (or before selling) by printing random text without the ribbon over a sheet of paper impregnated with vertical stripes of WD40. And you'd get a new ribbon!

If you think you need a replacement part – a keyboard, a printer or a disc drive – you can't just buy them off the shelf, though you can send in your old ones and get them replaced. One company offering such a service is Isenstein (0244 312986). Rough prices: drives £70 or so, printer mechanisms £80 (9512) £40 (8000s), print heads £40 (8000s), keyboard (8000s) £50.

Copyright wrongs

The copyright situation is pretty straightforward. When you sell your PCW you hand over all your master discs and copies (or just erase your copies and keep the discs). The new owner takes over the right to use, and make working copies of, LocoScript and CP/M. Check the licensing agreement in the manual for details (but don't expect the one for CP/M to be as clear as the one for LocoScript). Of course if you're selling you can't keep sneaky copies of software you've sold, but then if you've got rid of your PCW they wouldn't be much use anyway. For programs other than those which came bundled with the machine, the licensing agreement may be different. The new user of, for example, DR Graph may have to send a small fee to Digital Research to have the registration of that particular copy of the program changed to their name. ∎

Location classified

The biggest problem with obtaining a used PCW is knowing where to look. There's no obvious place and it's doubtful your local computer supplier will have a second-hand computer pitch outside decorated with bunting and coloured lights.

The first place to look is in the small ads in the back of the PCW magazines. The magazines *Micro Mart* (50p, fortnightly) and *Computer Shopper* (78p, monthly) have classified sections where people sell their used machines. Micro Mart's is particularly useful. You can also try *Exchange & Mart* (75p, weekly) which has quite a large computer section and regularly has PCWs for sale. A few computer suppliers do sell off ex-demo models from time to time; though it's not very helpful to say so, it seems you're more likely to find them by chance rather than by looking for them! For example, Morgan's, the big computer suppliers on Tottenham Court Road and also on Oxford St, occasionally get PCWs in. Typical prices might be £325 for an 8512 and £250 for an 8256.

Word of mouth can supply a few leads as well – you're bound to find the friend of a friend who has a PCW and there's always a chance they're thinking of upgrading.

SID STRIKES BACK

One year after Black Monday, David Frost looks at two programs to guide your investments

Stocks and shares for the masses – it's been one of the big things of the eighties. Although the stock market crash of last October frightened many, the prospect of water, electricity, steel and even coal being privatised in the future will encourage plenty of people to take the element of risk involved in share ownership. Stockmarket and Market Merlin both promise to help you keep track of the profits (or losses) and suggest which shares to buy and sell...

Share alike
Companies are owned by their shareholders who invest money with the aims of collecting a dividend (company profits divided and distributed to sharholders) and making a profit by selling their shares when the price is right. Prices go up as well as down so there is an element of risk in share ownership.

Technically wrong
In theory share prices should move up and down to reflect company performance. In practice this does not happen because so many other factors can affect share price movement. Technical analysis attempts to predict when a change in price is likely and to indicate whether to buy or sell. It can work well given experience and a modicum of luck but remember that few technical analysts predicted last October's crash.

STOCKMARKET
£39.95 ● Meridian Software (01 850 7057)
● All PCWs

This is an improved version of a program which first appeared a couple of years ago – existing owners can upgrade for £19.95 plus the original disc and manual. The program is supplied on disc with a comprehensive and well produced manual catering for the 8000 series machines and the 9512, an installation program converting old data files to the new format. One side of the disc contains the program for price information and the files needed to boot Stockmarket; the other side is used for running the accounts programme.

Both parts of Stockmarket are entirely menu-driven with three menus to choose from. These are a main menu, option menu and question menu. Where default settings (ie. ones automatically selected if you just close your eyes and press [ENTER]) exist they are usually fail safe which slows things up a little but does prevent you making a nonsense. A demonstration file is included for practice.

The prices program is crucial because it records the movement of share prices and helps decide when to buy or sell. Up to 260 prices per share for a maximum of fifty shares can be recorded. Prices can be edited to allow for scrip and rights issues and part paid shares. Most users will wish to enter prices weekly and then plot the results to assist in determining future investment strategy. The program will plot prices on a linear or logarithmic scale with the latter being the most useful option. You can plot average prices for, say, 13 weeks to give an indication of price trends.

Several different averages can be superimposed on the same graph. If you have a lot of entries in the price file it may be difficult to interpret the curves as the graph covers the whole range of stored prices with no means of expanding to investigate a shorter period. 8256/8512 owners can print the graphs but 9512 users will have to be content with viewing them on the screen unless they have a suitable printer.

The accounts program is used to keep track of individual share holdings and also bank, building society or cash accounts. You can have as many files as you like with up to 50 shares in each. New purchases are entered in the buy menu which will automatically enter such information as stamp duty, commission and VAT. You can alter the default settings for these in the housekeeping menu. Sales are recorded in a similar way and both current and historic files are maintained so there is a permanent record of your actual holding together with older data which may be needed for tax purposes.

Printouts from both current and historic files can be done selectively which makes it possible to list a whole year's sales and purchases for the tax return. Capital gains are indexed-linked for tax purposes but the program cannot take

STOCKMARKET - Graph showing five years movement of the FT 30 index. The smoother line running just below it is the 26 week moving average of the index.

STOCKMARKET
PLUSES
▲ Well written manual, easy to follow
▲ Records share holding, dividends and cash accounts
▲ Dividends can be listed for tax purposes
▲ Simple price movement analysis by moving average method

MINUSES
▼ Capital gain calculation does not allow for indexing
▼ Fail safe default values are irritating
▼ No expansion facility for price graphs

RANGE OF FEATURES	3/5	EASE OF USE	4/5
DOCUMENTATION	4/5	PERFORMANCE	5/5
	8000 PLUS VALUE VERDICT	4/5	

STOCKMARKET - List of current share holdings

MARKET MERLIN - Short list of buy recommendations

MARKET MERLIN - Full recommendation for a selected stock

account of this so you will have to work out the details with a calculator or use a spreadsheet. Any gain shown on the print is likely to be in excess of the taxable gain. Dividends and tax credits are readily printed out in a format suitable for enclosing with the tax return.

MARKET MERLIN
£49.95 ● Burncastle Associates (0483 36591/0635 298267) ● All PCWs

Merlin is a totally different program which is geared to meet the needs of the active investor. It is unique amongst PCW investment analysis software in making definite recommendations as to which shares to buy. This advice does not extend as far as telling you when to sell so you will have to make your own judgement on when to take a profit or limit a loss and also on the shares to watch in the first place.

Merlin runs on the 8256/8512 or 9512 (specify which) and needs no installation. The program runs from a main menu giving access to nine sub menus all of which are easy to follow. Apart from entering or editing data no demands are placed on the user. The manual supplied with the review copy was marred by poor layout and numerous spelling mistakes but Burncastle say a new version is in course of production. Newcomers to share ownership will appreciate the Stock Exchange guide to buying and selling shares which is also included.

The manual's main interest lies in the explanation of how the buy recommendations are arrived at. The basis is an analysis of point and figure graphs which are a common form of technical analysis though less widely used than moving averages. Point and figure graphs chart movements of share prices in such a way that an X indicates a rising price and an O a falling one. Unchanged prices do not register. The Point is a unit of movement whose size varies in relation to the price of a share. Cheap shares have points of 1p or 2p whereas more highly priced ones have points of 5p or even 10p. You choose the size of the point but Merlin always assumes that a reversal only takes place when the price has moved 3 points.

If share dealing was so simple you would hardly need a computer to help, but there are other factors affecting prices and sentiment which Merlin takes into account. For optimum results you need to keep in touch with the share market by reading press comment, watching for possible bid situations and finding out what your broker thinks of the market and the shares you are interested in. Cover, yield, P/E ratios and the date of the company's results must also be entered. Subjective comments are entered on a scale from −2 to +2.

The program also applies its own weighting factors as it looks for undervalued shares. These come in the form of ten ratings which assess the facts from different angles and are taken into account as the program works out its

recommendations. The manual does not explain exactly how these ratings are arrived at, other than to say the approach is cautious. Before investing any money it would be wise to have some practice runs to build confidence in the system.

Fifty shares is a reasonable number to keep track of (there is theoretically no limit) and every time the data is updated Merlin will review its recommended list of buy shares. A short list itemises all the potentially interesting shares and there is a full recommendation for selected stocks. This includes a summary of all the factual and subjective data together with a section of text explaining the reasons for the recommendation.

Finally a chart shows the range of prices over which purchase is recommended depending on the stockbroker's assessment of overall market sentiment. The old adage that there is no profit until it is taken always applies and you will need a rise of around 10% just to cover dealing costs. ■

Computer error
A caveat to anyone putting too much faith in machines is that the crash of last October was largely *caused* by computers. The stock market computers are all linked and run under programs which sell automatically when prices drop. Not being 'intelligent', these programs didn't know when enough was enough and on this occasion got each other into a downward spiral which only ended with human intervention.

Choose your weapons

Stockmarket is best for the investor whose main concern is to keep an orderly record of shareholdings and associated tax records. If at a later stage you wish to use technical analysis on its own or to check other recommendations the moving average method can be used. Owners of the earlier version should consider an upgrade, partly because the new program is very much faster and partly to gain advantage of the improved dividend recording and tax printouts.

Merlin is very definitely for the active investor who is prepared to commit time to managing his portfolio. It requires faith both in the point and figure system and the weighting factors applied by Merlin. You will still need another program to keep track of sales, purchases and dividends. The review period has not been long enough to assess whether you are likely to win or lose by investing using Merlin's recommendations although the authors claim 80% success.

MARKET MERLIN
PLUSES
▲ Unique ability to give 'buy' recommendations
▲ Takes account of several subjective factors affecting share price movement
▲ Easy to use

MINUSES
▼ Some subjective data has to be entered
▼ Comprehensive manual marred by poor spelling and presentation
▼ No capability of recording sales, purchases or holdings
▼ No indication of when to sell

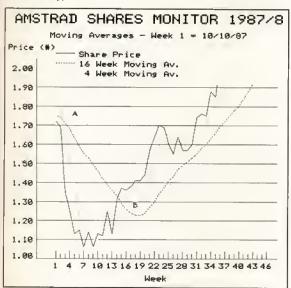|			
RANGE OF FEATURES	3/5	EASE OF USE	4/5
DOCUMENTATION	1/5	PERFORMANCE	4/5
8000 PLUS VALUE VERDICT		3/5	

STOCKS AND SHEETS

Use your PCW to monitor your stocks and shares: Margaret Osborne gives you inside information

In its more simple form, chartism involves plotting share price against time, and recognizing shapes or forms from which inferences can be drawn with regard to likely share price movement. A number of popular investment books describe the standard curve forms and their interpretation. Beyond this, plots are extended to include statistical or analytical functions of the data and this is where the power of a spreadsheet comes into its own. Perhaps the best known technique is that based on 'moving averages'.

With this technique, share price is plotted together with two averages of price over a preceding period, one being four times longer than the other (commonly 100 days and 25 days). Here's an example for my favourite company, one Amstrad plc, based on 16 week and four week averages (which corresponds roughly to the 100 and 25 day periods but is more practicable within the constraints of the PCW-size memory).

AMSTRAD SHARES MONITOR 1987/8

The points that chartists particularly look for are the cross-overs of the two moving average lines. If the short term moving average cuts through the long term average and both are sloping downwards it is known as a 'dead cross' and is a good cue to sell. This is very well illustrated at point A which corresponds to the stock market crash of last October. If the converse is the case, it is known as a 'golden cross' which is regarded as a very 'bullish' indicator and therefore a cue to buy. Point B is a follow-on cross-over which is not strictly a golden cross as both averages are not rising. However, as can be seen, it was a very good prompt to buy as the price of the share nearly doubled within a few months.

This shows the layout and functions (shown in formula display) for recording share prices and calculating the moving averages using SuperCalc 2. A point to note is that you require 16 weekly readings before the first long-term calculation can be made. When I first started charting, I obtained historical data from back copies of The Times at the public library in order to be able to start computing immediately.

> You can monitor share prices without specialist software like that reviewed in the preceding pages – if you are an investor in company shares, your PCW together with a spreadsheet package can be useful in two ways. Firstly, you can try your hand at technical analysis or 'chartism' as an aid to investment strategy. Secondly, for your portfolio you can keep a running acount of your profit and loss situation for each share and how it rates as an investment (in comparison with return from a building society or other 'safe' form of investment).

As SuperCalc does not have a graphics output option, I use DR Graph (DRG) for producing plots of which the above graph is an example. I copy both packages to the extended M drive of my 8256 (for £20, purchase of the additional chips was the best investment I ever made). I then find that the two can be used together as virtually a single package, taking advantage of the Super Data Interchange (SDI) option when I wish to copy a lot of data from SuperCalc to DR Graph.

The second useful area of application of a spreadsheet is monitoring profit and loss from investments. The layout I use for this purpose is shown here (again data and formula display).

The example is that of someone who purchases 1000 Amstrad shares on Christmas Eve (last minute present for someone perhaps) in anticipation of the moving average trends of the cross-over which subsequently occurs during week 15. The share price is inserted weekly and four functions are automatically derived as shown in the formula display. The multiplying factor of 0.981 in Total Value is to allow for selling charges (Stockbroker's Commission and Stamp Duty at 1.65% and 0.3% respectively). The percentage per annum gives a rough basis (as it is only a simple interest formula) for comparison with other forms of investment. If space allowed for continuation of the record to the present time (mid-August), it would show that value had been nearly doubled and the annual return was approaching 200%. However this is unlikely to continue indefinitely with such a volatile share as Amstrad and therefore the secret of maximising profit is to keep a lookout for the next SELL cue in the plot of moving averages. ∎
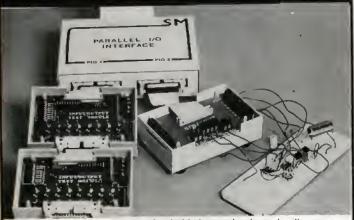

Spreadsheet - Profit and loss monitor

Spreadsheet - Share price moving averages

Further reading

A Daily Telegraph publication 'Stocks and Shares' by Roger Hardman, in the chapter headed 'Drawing your own Charts', goes through this process in more detail.

BOOK LOOK

Woman of letters Sharon Bradley leafs through two new books for PCW owners

LOCOSCRIPT
by Anne Clark and Kath Butler
£3.50 ● Pitman Publishing (01-379 7383)

Somewhere out there are a million PCW owners. Most of them are first-time users of computers, looking for some kind of guide to LocoScript to supplement the manual. This book is another of the training guides that are currently flooding the bookshops aimed at this vast market.

The aim of the book is to provide immediate hands-on learning in as uncomplicated a way as possible. The book consists of 27 tasks each one of which explores some aspect of LocoScript's various editing facilities, from the most mundane (like inserting and deleting characters) to the more advanced (filling a standard letter with variable material, for example).

The introduction reveals some of the more obscure key combinations that you will need to know about in order to get the best out of LocoScript (for example, pressing ALT and ENTER together acts as a Caps Lock for all ensuing letters, whilst holding down either SHIFT, ALT or EXTRA with another key will produce further hidden characters.)

Each task (or chapter) has what is termed an objective at the top of the page; then a series of instructions on how to achieve that end. You're then asked to type in some text which is usually to be found on the next page in a different typeface. Finally you're instructed to make various amendments to that typed-in text using the facilities that that particular task is trying to get you to master.
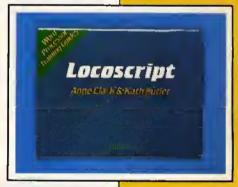
Each of the 27 chapters works on exactly the same principle which does tend to get a little monotonous after a while. Still, tedium is one of the prices you pay for a foolproof guide. The text that you will be typing into your PCW with each chapter has certainly not been chosen for its ability to keep an audience's attention riveted. Whilst some contain more general and vaguely useful pointers about wordprocessing, the text in Task 3, which enlightens us on the equipment used in the postal section or mailroom of an organization, seems superfluous in the extreme.

The format for each task also stays the same throughout the book; the Text Creation paragraph can become slightly wearing after a while because you're basically being told to do the same thing 27 times on every other page. The same can probably be said of the Memory Jogger paragraph which encourages you to remember and use facilities that have been covered in previous chapters.

The instructions in the guide are easy to follow, clear and precise. And even if the guide is at times a little repetitive, it's worthwhile bearing in mind that it will probably achieve exactly what it has set out to do, which is provide thorough and positive tuition in LocoScript II. And, what's more, at a pretty reasonable price. ∎

LOCOSCRIPT
(ISBN 0-273-02916-9)
8000 PLUS VALUE VERDICT   4/5

HACKER'S HANDBOOK III
by Hugo Cornwall
£6.95 ● Century Hutchinson (01-240 3411)

This updated edition of The New Hacker's Handbook contains more sound advice on how to be a hacker: the term used to describe those people who break into Prince Philip's electronic mailbox and read his letters by guessing that the password he uses is ZORBA, or who try to tap into the Pentagon computer via phone lines and start World War III.

The book provides sound advice on the sort of equipment you're likely to need before you start hacking, and where to find sources of lucrative information once you do get going. One of the best sources of information is the bulletin board, and accompanying the advice are authentic excerpts from various guides to well-known operating systems which have appeared on hobbyist boards.

Hacker's Handbook III shows you how to ask the right kinds of questions: the organization using the system in question – is there any information being published about it? When was the hardware and software installed? Who supplied the system in question and is there anybody else using it?

There's quite a few useful hints and tips about arriving at a correct password (or entry validation procedure if you want to sound impressive) for a particular system. These will help you determine what sort of things to look for and illustrate likely conclusions to draw from that information. The book is sprinkled with recounted episodes of some of the more impressive hacks to date.
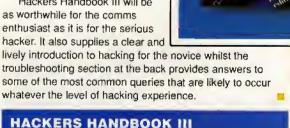
The would-be hacker is also warned of the various pitfalls in the trade and the consequent risks of unauthorized invasion (which, in some cases, is surprisingly easy).
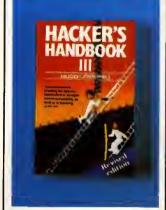
Hackers Handbook III will be as worthwhile for the comms enthusiast as it is for the serious hacker. It also supplies a clear and lively introduction to hacking for the novice whilst the troubleshooting section at the back provides answers to some of the most common queries that are likely to occur whatever the level of hacking experience. ∎

HACKERS HANDBOOK III
(ISBN 0-7126-1147-9)
8000 PLUS VALUE VERDICT   4/5

CATCH 23
£19.99 ● Martech (0323 768456) ● All PCWs

Now we all like to get away from time to time but the kind of island this game reveals is certainly one for the more adventurous. Indeed, its minefields, electrified fences and enemy patrols make it only a little less masochistic than holidaying with Club 18-30.

Certainly, this is no paradise island. Divided up into fourteen zones, the island reveals a variety of topographical features including marshes, woods and mountains. Once a thriving civilian locale, it has now been taken over by the military and is a far from friendly environment.

Catch 23 is very much a game of exploration. But what are you hoping to find? Oh nothing much, only 'the most secret military complex on earth'. If it's that secret, how come we know all about it? Still, reviewers can be too fastidious.

Hidden in this military complex is the CK23, an 'orbital interceptor' no less, which carries an advanced laser system capable of destroying enemy spacecraft and missiles. Who the enemy are or why they are adversaries is not made very clear.

Your far from simple task is to locate this complex and abscond with the design of the CK23. If that wasn't being anti-social enough, you then have to set a delay bomb on the island's nuclear reactor, making sure, of course, that you don't blow yourself up in the process.

The action takes place at night between the hours of 2200 and 0600 which means that you have only a mere eight hours to complete the mission, about the same time it takes the national cricket team to lose a test match.

As you're on foot, the action is seen from your helmet with movement left, right, forward and back all possible. The view in front of you is stark but not uninteresting. The three dimensional vector graphics (you know, where normally solid objects take on the appearance of coat hangers) are similar to those in Starglider for those who saw that game. Except for the armoured tanks that patrol the island, however, all objects are stationary, though there is an impressive change of perspective each time you move.

At the beginning of each game you may find yourself in any of the fourteen sectors. As you are parachuted in, you are at the mercy of the wind. This does not mean, however, that you are totally alone. The island, it seems, has its own underground movement, so underground in fact that I failed to find any of them. Yet the playguide hints of some colourful if totally unbelievable characters, such as the Spaniard, Homero Guevara, brother of the renowned bull-fighter El Guevara, Professors Ning and Wang, and Cristopholous Stavros who, when not doing feeble impressions of Harry Enfield, likes to play football and tennis, presumably not at the same time.

Boom town
On foot then, you proceed to explore the wire buildings which surround you. Some contain doors, though not all of them, I discovered, actually open...or so it seemed. These buildings can provide you with vital information to your quest

WAR G

Man of peace and freedom Tony
warlike games from Martech

– batteries for the mine detector, explosives for making bombs, spare ammunition clips and so on.

On the other hand, you must look out for booby traps, otherwise the one fragile life the game affords will be brought to a sudden and undignified end. Minefields are another hazard which can lead to a similar demise, though your mine detector should keep you out of trouble.

A comforting fact for the less athletic is that all the exploration does not have to be on foot. There is a swift and efficient shuttle service which can take you to another zone in a matter of seconds. This is very well done. At first you get the impression of pulling out of a station at a fairly slow speed, to be followed by a high speed trip as buildings flash past you on either side.

As well as the view in front of you, the screen displays a range of necessary information – the current zone you occupy, amount of bullets available, battery status and compass. It also shows how many bombs you have at your disposal – up to a maximum of three. These can be used for a number of purposes: disposing of buildings, blowing up tanks or, for the more sophisticated player, creating a diversion. You are equipped with an unlimited supply of detonators and timers, but once you have used up your initial supply of bombs more can be found in the island's buildings.

But the game is not all strategy and exploration. The foot and tank patrols provide plenty of action to test your reflexes. The foot patrols can suddenly appear in front of you when you least expect, either very close or at a distance, and you have only a second or two to line up your shot. A 'dangerometer' at the bottom of the screen does provide some warning so that you are not always taken totally by surprise.

One of the disappointing features of the game is that you only have one life which means that no matter how far you get, one fatal mistake will take you right back to the beginning. As in adventure games, however, there is a save facility which in this case you will need to use extensively.

A good deal of thought and planning has gone into the making of this game and it shows. Not without its flaws but certainly a game worth playing. ∎

CATCH 23
PLUSES
▲ Comprehensive playguide including map
▲ Complementary mixture of reflex action and strategy
▲ 3D vector graphics provide suitably ominous atmosphere

MINUSES
▼ You die too quickly and too easily
▼ Weak background scenario

GRAPHICS	4/5	LASTING APPEAL	4/5
ADDICTIVENESS	4/5	VALUE VERDICT	4/5

GAMES

lanagan takes a look at two

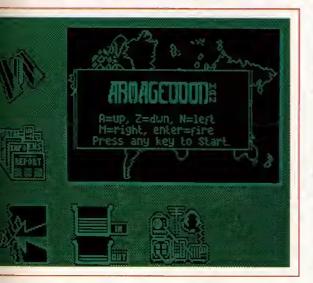## THE ARMAGEDDON MAN
£19.99 ● Martech (0323 768456) ● 8000s only

What with Mindfighter last month and now this one there seems to be a distinctly apocalyptic feeling in the air. Perhaps the appalling summer has stirred up some latent deathwish in us all or perhaps we just want cheering up. After all, as any bar bore will tell you, what this country needs is a good war! What better entertainment than inflicting horrific injuries on each other and then dying of radiation sickness.

Commendably, the object in both Mindfighter and The Armageddon Man is to prevent nuclear war from breaking out. In the latter, you take on the awesome role of Supreme Commander, a world leader in effect, whose task it is to prevent Armageddon. Unlike Mindfighter, this is a a game of strategy rather than adventure but is nonetheless compulsive. As any respectable dictator will tell you, there is something very appealing about holding the fate of nations in your hands.

As head of the UNN you are responsible for maintaining good relations between the sixteen member countries. To be successful, you will need a a good complement of

the member countries. Although you might be tempted – out of sheer devilment – to plunge the world into nuclear holocaust just to see what happens your prime objective is peace and prosperity for all nations (boring eh?). Conflicts have to be nipped in the bud otherwise these can quickly degenerate into nuclear tit for tat which in turn could escalate to involve other countries.

Thought for food

By providing sufficent food and resources for each country, you can ensure that each country stays relatively happy. Economic stability is a priority as once a country becomes economically unstable it is more prone to conflict with other countries. As Supreme Commander, you have the power to encourage or discourage trade between nations, depending on how they behave. Obviously, it is in your interests to weaken potential aggressors as it is to develop weaker nations that show promise.

This goes for military capability too. Again, you have power to increase or decrease the military might of any particular nation. Should one particular nation become too powerful then it

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THE ARMAGEDDON MAN

PLUSES		MINUSES	
▲ Always something to do		▼ Explanation of radio network confusing	
▲ Good screen layout		▼ Possibly too many countries	
▲ Efficient Icon system			
▲ Easy to get into			
GRAPHICS	**4/5**	**LASTING APPEAL**	**4/5**
ADDICTIVENESS	**4/5**	**VALUE VERDICT**	**4/5**

---

diplomatic, military and tactical skills. The fact that there are '240 inter-country relationships' to think about puts the awesomeness of your task into perspective.

Primarily, you must attempt to establish a good personal relationship with each country. This means taking into account the idiosyncrasies of each of the members – different political systems, especial economic problems and so on. Communication with each nation is of the utmost importance as it is only through frequent contact that good relations can be maintained. Countries that are left to their own devices tend to develop their own initiatives which may not always have the interests of the UNN as a whole at heart.

It is also important to foster good relationships between

could cause a good deal of trouble. Maintaining equilibrium is the name of the game.

The gameplay is quick and you are never left with nothing to do or waiting for something to happen. In fact, the opposite is true as information from different sources comes pouring in. The game employs an efficient icon system, with five principal windows and a map of the world occupying the main screen. The first icon gives you access to a comprehensive satellite system which contains nine satellites in all. These may be strategically positioned for surveillance purposes and are shown on the main map.

The second icon gives access to information on all sixteen countries, detailing military capability, and quantities of food and resources. This needs to be surveyed fairly frequently if you are to make the right decisions. A third icon, consisting of an in-tray and an out-tray, provides the communication point for you and each of the member countries. Incoming messages tend to be very specific. Two countries, for example, may want to trade and need your approval. Others might be interested in a cultural exchange (though there might be more to this than meets the eye).

Perhaps the most novel feature of the game is the radio network accessed through the fourth icon. This allows you to tap into any clandestine communication between countries. By tuning into the correct frequency you can decipher the garbled message that flows repeatedly onto the screen.

Wars may be conventional or nuclear, though a nuclear war does not necessarily mean total obliteration of the whole world. Usually, it means the annihilation of one of the countries involved. When such a war breaks out, the screen map shows tiny missiles flying between the warring factions.

To help you, the game contains a colour map of the world and reusable flags as well as a very thorough playguide. If you like a game which tests your decision-making skills then this game will certainly appeal. ∎

THAT IS THE QUESTION

Make your voice heard and win £25 of free goodies!

8000 Plus is *your* magazine – so tell us what you think of it, for better or worse. We try to give you what you want, so if you think we're missing out on anything, or concentrating too much on the wrong things, let us know. Many of our recent articles and features have come about through requests by letter or phone, so we do listen!

Don't feel you have to identify yourself, though if you do you could pick up one of 5 vouchers worth £25 we're giving away (and we're not going to put your names on some tedious mailing list!) You can trade in your voucher for any of the products in our Special Offers pages this (or any future)

month. The first 5 questionnaires drawn out of the editorial stetson on November 4th, 1988, will receive the vouchers, though of course we'll be happy to receive questionnaires after that.

If you don't want to mutilate your 8000 Plus, we'll be happy to receive photocopied forms, and of course if you want to add an extra sheet of paper for your in-depth analysis that's fine. Many questions can have more than one option ticked.

Send your questionnaires to *Questionnaire, 8000 Plus, 4 Queen St, Bath BA1 1EJ.*

Name   **Age**

Address

Occupation

Spare time activities
(eg running a club)

Which was the first issue of 8000 Plus you saw?

Are you an occasional or regular reader?

How has 8000 Plus changed since you started reading it?
☐ worse   ☐ same   ☐ better

Which magazines do you read – not necessarily computer mags – and how would you rate them out of ten?

8000 Plus	/10
	/10
	/10
	/10
	/10

Any general comments?

Computers owned
☐ none   ☐ 8256   ☐ 8512   ☐ 9512
☐ other – specify which:

Do you use a PCW
☐ at home   ☐ at work

Which software packages do you own
☐ word processor (other than the LocoScript that came with your PCW)
☐ database   ☐ spreadsheet   ☐ accounts   ☐ games
☐ programming ☐ graphics   ☐ desktop publishing

Please list the software packages you have bought

Are you thinking of buying any of the following packages?
☐ word processor ☐ database   ☐ spreadsheet   ☐ accounts
☐ games   ☐ programming   ☐ graphics   ☐ desktop publishing

What hardware do you own?
☐ printer   ☐ modem   ☐ hard disc   ☐ other

Do you think the level of knowledge required to follow the average article or tip-off in 8000 Plus is
☐ too low   ☐ about right   ☐ too high

How would you rate the following regular features in 8000 Plus out of ten?

Keywords (editorial)	/10	Case in Point	/10
Mini Office Tutorial	/10	LocoMail	/10
Langford	/10	Listings	/10
Tipoffs	/10	Good Software File	/10
PostScript	/10		

Would you like to see more coverage of:
☐ LocoScript   ☐ programming (languages other than BASIC)   ☐ creative writing
☐ tutorials – say what on   ☐ other – please specify

If you've ever bought software after reading an 8000 Plus review, how did the program compare with the review?
☐ better than the review said   ☐ about the same   ☐ not as good as the review said

BITS AND PIECES

A page wasted in the company of author and PCW pundit David Langford

Back in a period of such primordial antiquity that your present editor was but a gleam in some mad scientist's eye – that is, in 1986 – I wrote about the peculiar Amstrad spares situation. The trouble then was a clapped-out PCW keyboard, which according to Lasky's could only be replaced by purchasing a new PCW8256 system and throwing away the unwanted bits. Amstrad themselves, when quizzed on the subject, reassuringly quoted that favourite maxim of the computer industry: "Go away, we don't do business with *end users.*"

(Perhaps it would be better if the big computer nabobs voiced their actual thoughts and called us all "wallies" or "suckers" instead. At least those terms sound as though they might apply to human beings.) That was all long ago, and sources of replacement keyboards did emerge. One rather assumed that everything in the garden would by now be lovely.

However, just recently the trade newspaper *Computing* ran a piece headlined "Amstrad users face long queue for spares", featuring such juicy quotations from the trade as, "The system just doesn't work". There are horror stories of six-month delays in replacing not merely old and tired keyboards from battle-scarred Amstrads, but dud parts from newish machines still under warranty.

One fascinating side issue involves the mighty clash of claims between a dealer who says Amstrad has been blaming hold-ups on a riot in one Taiwanese factory, and an Amstrad official who repudiates this vile accusation with the counterclaim that Amstrad can manage lots of supply problems without requiring any assistance from riots. But let's not go into that.

Me and the PPC
Spare parts were on my mind when I bought an Amstrad PPC to lug around on all too infrequent holidays. This represents a lot of brand-name loyalty, since the idea of unfolding such a hefty object on British Rail is a joke all by itself, without considering the expensive,

short-lived, non-rechargable batteries. (Use of the PPC's vaunted modem on battery power is prohibited with terrifying warnings – the general impression is that the mere attempt will cause the keyboard to melt and the disks to fly out like frisbees, while to your ears comes the horrid noise of Alan Sugar tearing up the guarantee.)

Actually this didn't bother me: I wanted to write in a holiday flat, not while sunbathing, bicycling or windsurfing. What would be nice, I thought, would be a spare mains power supply to save lugging that additional, bulky and not at all built-in adaptor box around. The dealer was tactful about my foolish request, and thought that Amstrad might make a few spares available in the mid-1990s, but for now – forget it, sunshine. There must be an opening here for an independent mains adaptor from some enterprising electrical firm? (13 volts, 1.9 amps, and do please send me a review copy.)

Monitor wizard
Where the spares situation becomes surreal is in the matter of the PPC's famous add-on colour monitor. Yes, there's a cute little monitor socket at the back, and by either software or hardware control you can switch from the LCD screen to the monitor of your choice... but where to get one?
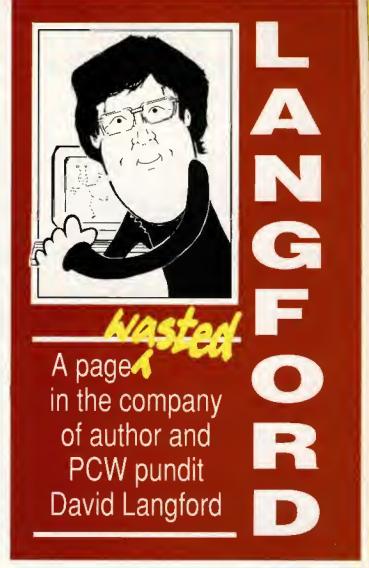
Various people have been patiently plugging in various IBM colour monitors, led on by naive trust in the fact that the PPC is nominally IBM-compatible. 100% success is not reported.

It's said that standard NEC mono monitors work with the PPC but with a recommended retail price around £200 they don't seem a terrifically attractive substitute for a colour version.

I borrowed a guaranteed all-purpose colour monitor from a friend, and plugged it in. All the monitor's fuses immediately blew and it hasn't worked since. My former friend is still digesting this information.

Dealers say, "No chance, squire, *we* can't supply a monitor. Write to Amstrad."

If you do write to caring Amstrad, they write back and say, "Be advised Amstrad do not supply monitors separately."
One anguished user responded to this as follows: "It says in the handbook you can use the PPC with an Amstrad monitor. I only have a PPC. Can I buy a monitor?"

Amstrad: "Be advised Amstrad do not supply monitors separately."

User: "How can I get an Amstrad monitor?"

Amstrad: "Easy! Buy an Amstrad PC."

User: "Suppose I *have* a PC and my monitor has been stolen or caught fire; can I buy a replacement?"

Amstrad: "Only if you send us the burnt-out bits or a statement from the police confirming the reporting of the theft."

Blimey.

I'm not sure how this bodes for the oft-rumoured portable PCW. I hardly dare to hope that some

enterprising hardware firm will start supplying cheap replicas of the remains of fire-ravaged Amstrad PC monitors. If so, please don't send me a review copy.

Tailpiece
On another subject altogether... I take a morbid interest in the sufferings of the English language at the hands of computer programmers and journalists.

Last month I read – in Another (Official) Magazine – a piece by Rex Last on German software. Its opening paragraph:

"One of the constant grumbles in the pages of the German computer magazines is that they have to put up with programs, manuals and adventures all written in English. It's a problem which, thank goodness, we on this side of the Channel don't have to face up to."

How true, how very, very true....

GSXPLORATION

DIY graphics in BASIC for free! Charles Pulteney unravels some of the mysteries of GSX in the first of two features

It seems GSX has earned a reputation for being complicated to use. Well don't believe a word of it. This article provides you with a gentle introduction to GSX, a nuts and bolts utility which will enable you to use most of the PCW's graphical facilities (concentrating on printed output), and some example programs. The only technical skill required is the ability to plot points in relation to X and Y axes, a bit like the grid references on an Ordnance Survey map. You'll have to be reasonably familiar with BASIC too.

First of all you need to set up a GSX start of day disc for Drive A. Using PIP.COM, copy the following files from the relevant system discs on to one side of a blank formatted disc. See the margin note overleaf if you want help. J14CPM3.EMS (the number may be slightly different, eg on a 9512 it is J21CPM3.EMS – check by taking a directory with DIR); BASIC.COM; DDHP7470.PRL; DDFXLR8.PRL; GENGRAF.COM; DDSCREEN.PRL; ASSIGN.SYS; DDFXHR8.PRL; and GSX.SYS are needed.

You now need to alter BASIC so that the GSX system is installed in memory when BASIC is run. This is done by typing GENGRAF BASIC. The GENGRAF copyright sign will appear and after a while the A> prompt will return. To avoid confusion with *ordinary* BASIC, rename this GSX version by typing REN GBASIC.COM=BASIC.COM.

You can erase GENGRAF.COM, as the file is no longer required. Your startup disc now has all the files you need to run GSX. In future, if you place the disc into Drive A after switching on your PCW, CP/M will load automatically. If you now type GBASIC you should see the GSX-80 copyright sign followed by the one for Mallard-80. Note that there are only 17k free bytes, ie. less than normal.

First you need a framework letting you use GSX facilities from your own programs. Type the utility program listed overleaf in and save it with SAVE "UTILITY.GSX".

The utility does not draw anything. To produce output you need to write another program starting at line 10000, and merge it with UTILITY.GSX. The utility simply sets GSX up to draw your picture on the screen or printer. You can put GOSUBS into your program which use the functions
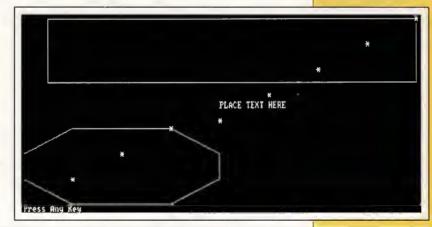
> GSX stands for Graphical Systems Extension and is a piece of software supplied free with all PCWs. The only problem is knowing how to use it, as documentation is almost non-existent.
>
> Yet Mallard BASIC can be used to call the facilities available in the PCW version of GSX. Although the screen output of the PCW version of GSX isn't so good, the printer output (for dot-matrix printers only) is really impressive and is capable of producing high quality graphs, bar charts, pie charts, sketches and letter headings.

provided by the utility – they're summarised overleaf.

For example, if your main program has a line like GOSUB 2000 and has just set variables x1 to 5, y1 to 55, x2 to 80 and y2 to 80, you'll get a rectangle whose lower left corner is at 5 on the x-axis and 55 on the y-axis, and whose top right corner is at 80 on the x- and y-axes.

On this page is an example of a listing using some of the functions. Type the listing below, save it with SAVE LISTING2.GSX and when finished MERGE UTILITY.GSX. The utility you typed earlier will be tacked on and you can use the functions of the utility. If you now RUN you should be

PLACE TEXT HERE

Press Any Key

Line 10010 draws a hollow rectangular box whose lower left co-ordinate is 5, 55 and whose upper right co-ordinate is 80, 80.

Line 10020 draws a line of text with the base of the first character at 40, 45.

Lines 10030-10080 draw an eight sided polygon with a vertical hatch fill (which you will not be able to see on the screen). There are two points to

notice here. Use of the RESTORE/READ/DATA commands is the simplest way to enter a large number of co-ordinate values.

In line 10080, the first two items are the co-ordinates for x1, y1, the next pair x2, y2, and so on. The polygon GOSUB is the only one in which the data is ascribed directly to the pts.in% array. Note also that when using the polygon GOSUB, the final co-ordinate must be the same as the first one. In other words, you must finish where you started! It is for this reason that in this case the number of points (np%) is 9 and not 8. The RESTORE/READ/DATA commands can also be used to simplify data entry for the other GOSUBS.

Lines 10090-10110 draw 8 markers on the screen at the co-ordinates specified in line 10110.

```
10010 x1=5:y1=55:x2=80:y2=80:GOSUB 2000
10020 x1=40:y1=45:mes$="PLACE TEXT HERE":hgt%=400:dir%=0:GOSUB 3000
10030 np%=9:RESTORE 10080
10040 FOR i=1 TO np%*2 STEP 2
10050 READ pts.in%(i):pts.in%(i)=pts.in%(i)*x.scale#
10060 READ pts.in%(i+1):pts.in%(i+1)=pts.in%(i+1)*y.scale#
10070 NEXT:fill%=1:sty%=3:idx%=1:GOSUB 1000
10080 DATA 10,0,0,10,0,20,10,30,30,30,40,20,40,10,30,0,10,0
10090 RESTORE 10110
10100 FOR i=1 TO 8:READ x1,y1:tpe%=3:sze%=1:GOSUB 5000:NEXT
10110 DATA 10,10,20,20,30,30,40,40,50,50,60,60,70,70,80,80
10120 RETURN:'TO LINE 210
```

BASIC

presented by a three choice menu. If you made errors while typing the first utility, they will be picked up by the ON ERROR GOTO sub-routine (if this should happen make the relevant amendments and type: SAVE "UTILITY.GSX" and run the program again). Select 1 (Screen Output). You should see the box, the text, the polygon and the markers being drawn on the screen.

It is easy to build up a picture in this way. However, before experimenting further you need to know how to place your output exactly where you want it. GSX uses a co-ordinate system for its X and Y axes which is based on a range of 0 to 32767. This wide range makes it difficult to know exactly where output will appear when a drawing is sent to the printer or screen. The utility takes this problem into account, by scaling the X and Y axes to more sensible dimensions. Listing 3 produces a sheet of graph paper based on these dimensions which will simplify the planning of your drawings.

```
10 'UTILITY.GSX (LISTING 1 (PART 1))
20 'COPYRIGHT CHARLES PULTENEY
30 'MERGE DATA PROGRAM FROM LINE 10000.  DO NOT FORGET TO RETURN!
40 WIDTH 255:OPTION BASE 1:a$=CHR$(27):cls$=a$+CHR$(69)
45 bel$=CHR$(7):en.sta$=a$+"1":dis.sta$=a$+"0"
50 DIM ctrl%(6),pts.in%(151),pts.out%(12),int.in%(64),int.out%(45)
60 ON ERROR GOTO 9510:x.scale#=405:y.scale#=344.086
70 DEF FNpl.cur$(x,y)=a$+"Y"+CHR$(y+32)+CHR$(x+32):PRINT cls$
80 PRINT FNpl.cur$(26,9)"Commands Available:"
90 PRINT FNpl.cur$(30,12)"1) Screen Output"
100 PRINT FNpl.cur$(30,14)"2) Draft Quality Output"
110 PRINT FNpl.cur$(30,16)"3) High Quality Output"
120 PRINT FNpl.cur$(26,19)"Enter Command: "bel$;;
130 b$=INPUT$(1):IF VAL(b$)<1 OR VAL(b$)>3 THEN GOTO 120
140 IF VAL(b$)=1 THEN ptr=1:dvc%=1
150 IF VAL(b$)=2 THEN ptr=1.2:dvc%=22
160 IF VAL(b$)=3 THEN ptr=1.2:dvc%=21
```
(1)

```
170 IF dvc%>1 THEN PRINT cls$FNpl.cur$(0,0)"Please Wait";
180 IF dvc%>1 THEN t$="Ready To Print: Load Printer And "
190 GOSUB 9000:GOSUB 9100:mes$=" ":x1=0:y1=93:hgt%=1:dir%=0
200 GOSUB 3000:GOSUB 10000
210 b$="":PRINT bel$ dis.sta$ FNpl.cur$(0,32)t$+"Press Any Key";
220 t$="":b$=INPUT$(1):IF b$="" THEN 220
230 GOSUB 9400:PRINT en.sta$:PRINT FNpl.cur$(0,0);:LIST 10000-:END
1000 'DRAW POLYGON (AND FILL)
1010 '1ST CO-ORD=pts.in%(1),pts.in%(2):2ND CO-ORD=pts.in%(3),pts.in%(4) ETC
1020 'FOR FILL SET fill% TO 1 AND SPECIFY STYLE (sty%) AND INDEX (idx%)
1030 'SET NUMBER OF POINTS TO np%
1040 IF fill%=1 THEN GOSUB 8000
1050 ctrl%(1)=9:ctrl%(2)=np%:GOSUB 9200
1060 IF fill%=1 THEN sty%=0:idx%=1:GOSUB 8000
1070 np%=0:fill%=0:RETURN
2000 'DRAW RECTANGULAR BOX:   LOWER LEFT=x1,y1   UPPER RIGHT=x2,y2
```
(2)

```
2010 'FOR FILL SET fill% TO 1 AND SPECIFY STYLE (sty%) AND INDEX (idx%)
2020 IF fill%=1 THEN GOSUB 8000
2030 pts.in%(1)=x.scale#*x1:pts.in%(2)=y.scale#*y1
2035 pts.in%(3)=x.scale#*x2:pts.in%(4)=y.scale#*y2
2040 ctrl%(1)=11:ctrl%(2)=2:ctrl%(6)=1:GOSUB 9200
2050 IF fill%=1 THEN sty%=0:idx%=1:GOSUB 8000
2060 fill%=0:RETURN
3000 'PLACE TEXT AT x1,y1
3010 'TEXT IN STRING VARIABLE mes$
3020 'SET CHARACTER HEIGHT AS hgt% AND DIRECTION AS dir%
3040 GOSUB 8100:ctrl%(1)=8:ctrl%(2)=1:ctrl%(4)=LEN(mes$)
3045 pts.in%(1)=x.scale#*x1:pts.in%(2)=y.scale#*y1
3050 FOR t%=1 TO LEN(mes$)
3060 int.in%(t%)=ASC(MID$(mes$,t%,1)):NEXT t%
3080 GOSUB 9200:hgt%=1:dir%=0:GOSUB 8100:RETURN
4000 'DRAW POLYLINE FROM x1,y1 TO x2,y2
```
(3)

```
4010 'USE psty% TO SET POLYLINE STYLE
4040 GOSUB 8300:pts.in%(1)=x.scale#*x1:pts.in%(2)=y.scale#*y1
4045 pts.in%(3)=x.scale#*x2:pts.in%(4)=y.scale#*y2
4050 ctrl%(1)=6:ctrl%(2)=2:GOSUB 9200
4060 psty%=0:GOSUB 8300:RETURN
5000 'PLOT POLYMARKER AT x1,y1
5010 'SET POLYMARKER TYPE AS tpe% AND SIZE AS sze%
5050 GOSUB 8200:pts.in%(1)=x.scale#*x1:pts.in%(2)=y.scale#*y1
5060 ctrl%(1)=7:ctrl%(2)=1:GOSUB 9200
5070 tpe%=1:sze%=1:GOSUB 8200:RETURN
8000 'SET FILL STYLE AND INDEX
8010 ctrl%(1)=23:ctrl%(2)=0:int.in%(1)=sty%:GOSUB 9200
8020 ctrl%(1)=24:ctrl%(2)=0:int.in%(1)=idx%:GOSUB 9200:RETURN
8100 'SET CHARACTER HEIGHT AND TEXT DIRECTION
8110 ctrl%(1)=12:ctrl%(2)=1:pts.in%(1)=0:pts.in%(2)=hgt%:GOSUB 9200
8120 ctrl%(1)=13:int.in%(1)=dir%*10:GOSUB 9300:RETURN
```
(4)

```
8200 'SET POLYMARKER TYPE AND SIZE
8210 ctrl%(1)=18:ctrl%(2)=0:ctrl%(4)=1:int.in%(1)=tpe%:GOSUB 9200
8220 ctrl%(1)=19:ctrl%(2)=1:pts.in%(1)=0:pts.in%(2)=sze%:GOSUB 9200:RETURN
8300 'SET POLYLINE STYLE
8310 ctrl%(1)=15:ctrl%(2)=0:ctrl%(4)=1:int.in%(1)=psty%:GOSUB 9200:RETURN
8400 'SET FILL COLOUR INDEX
8410 ctrl%(1)=25:ctrl%(2)=0:int.in%(1)=colour%:GOSUB 9200:RETURN
8500 'SET TEXT COLOUR INDEX
8510 ctrl%(1)=22:ctrl%(2)=0:int.in%(1)=colour%:GOSUB 9200:RETURN
8600 'SET POLYLINE COLOUR INDEX
8610 ctrl%(1)=17:ctrl%(2)=0:int.in%(1)=colour%:GOSUB 9200:RETURN
8700 'SET POLYMARKER COLOUR INDEX
8710 ctrl%(1)=20:ctrl%(2)=0:int.in%(1)=colour%:GOSUB 9200:RETURN
8800 'FETCH CHARACTER HEIGHTS AND WIDTHS ETC
8810 ych.wth=pts.out%(1):ch.wth=pts.out%(3):ch.hgt=pts.out%(4):RETURN
9000 'SET UP
```
⑤
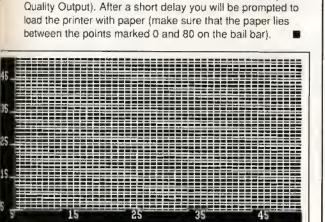
```
9010 GSX%=&H30:POKE GSX%+0,&H50:POKE GSX%+1,&H59
9020 POKE GSX%+2,&HE:POKE GSX%+3,115:POKE GSX%+4,&HC3
9030 POKE GSX%+5,&H5:POKE GSX%+6,&H0:RETURN
9100 'OPEN WORKSTATION
9110 ctrl%(1)=1:ctrl%(2)=0:ctrl%(4)=10
9120 RESTORE 9140:FOR i%=2 TO 10:READ int.in%(i%):NEXT i%
9130 int.in%(1)=dvc%:GOSUB 9200:RETURN
9140 DATA 1,1,1,1,1,1,1,0,0,1
9200 REM*****CALL GSX*****
9210 CALL GSX%(GSX%,GSX%,ctrl%(1),int.in%(1),pts.in%(1),int.out%(1),pts.out%(1))
9220 RETURN
9300 'CALL GSX WITH ONE PARAMETER
9310 ctrl%(2)=0:ctrl%(4)=1:GOSUB 9200:RETURN
9400 'CLOSE WORKSTATION
9410 ctrl%(1)=2:ctrl%(2)=0:GOSUB 9200:RETURN
9500 'SHUT DOWN GSX ON ERROR
9510 GOSUB 9400:ON ERROR GOTO 0:STOP
```
⑥

BASIC

Notes 3

It is best to keep text and drawings away from the edges of the available space.

Also, the variables controlling text height, text direction, fill etc. are always returned to the default settings whenever they are used. You therefore need to reset these values whenever you want to re-use a function.

Type NEW then type in the following listing followed by the commands SAVE "GRAPHPAP.GSX" and MERGE "UTILITY.GSX".

Type RUN then select 1 (Screen Output). You should see the graph paper being drawn a little unevenly on the screen (it will look better on printout than on screen, remember). The X and Y axes will be labelled. Again, any errors in your typing will interrupt the program. If everything is correct, exit by pressing any key. Type RUN again, and select 3 (High Quality Output). After a short delay you will be prompted to load the printer with paper (make sure that the paper lies between the points marked 0 and 80 on the bail bar). ■

What you can do

GOSUB	FUNCTION	OPTIONS	VARIABLES
1000	Draw polygon Fill polygon	Number of points	np% = number of points (and fill) fill% = 1 for Fill or 0 for Hollow
		Fill styles (4)	sty% = 0 (hollow), sty% = 1 (black) sty% = 2 (grey scale), sty% = 3 (hatch)
		Style index 6 gradations	only relevant when sty% = 2 or 3 idx% = 1, or 2, or 3, or 4, or 5, or 6
2000	Draw rectangular box (and fill)		x1, y1 = lower left co-ordinate x2, y2 = upper right co-ordinate
	Fill rectangular box		as above for fill%, sty%, and idx%
3000	Place text at x1, y1		x1, y1 = co-ordinate at which base of first character is printed mes$="Text"
		Character sizes (12)	hgt% = 1, 400, 600, 800, 1000, 1200, 1400, 1600, 1800, 2000, 2200, or 2400
		Text directions (4)	dir% = 0, or 90, or 180, or 270
4000	Draw line between two points		x1, y1 = first co-ordinate x2, y2 = second co-ordinate
		line styles (6)	psty% = 1, 2, 3, 4, 5, or 6
5000	Plot marker for line		x1, y1 = co-ordinate
		marker types (5)	tpe% = 1, 2, 3, 4, or 5
		marker sizes (12)	sze% (as for text character sizes)

```
10010 GOSUB 10090:'DRAW OUTER BOX
10020 GOSUB 10100:'DRAW VERTICAL LINES
10030 GOSUB 10110:'DRAW HORIZONTAL LINES
10040 GOSUB 10140:'DRAW x AXIS NUMBER POINTERS
10050 GOSUB 10120:'DRAW x AXIS NUMBERS
10060 GOSUB 10150:'DRAW y AXIS NUMBER POINTERS
10070 GOSUB 10160:'DRAW y AXIS NUMBERS
10080 RETURN:'TO LINE 210
10090 x1=0:y1=0:x2=80:y2=95:GOSUB 2000:RETURN
10100 FOR i=5 TO 80:x1=i:y1=5:x2=i:y2=95:GOSUB 4000:NEXT:RETURN
10110 FOR i=5 TO 95:x1=5:y1=i:x2=80:y2=i:GOSUB 4000:NEXT:RETURN
10120 FOR i=5 TO 80 STEP 10:x1=i-1.75:y1=3:mes$=STR$(i):dir%=0:hgt%=400
10130 GOSUB 3000:NEXT:RETURN
10140 FOR i=5 TO 80 STEP 10:x1=i:Y1=4:x2=i:y2=5:GOSUB 4000:NEXT:RETURN
10150 FOR i=5 TO 90 STEP 10:x1=4:y1=i:x2=5:y2=i:GOSUB 4000:NEXT:RETURN
10160 FOR i=5 TO 90 STEP 10:x1=1:y1=i:mes$=STR$(i):dir%=0:hgt%=400
10170 GOSUB 3000:NEXT:RETURN
```

The GRAPHPAP.GSX listing. When tacked on to UTILITY.GSX this will produce graph paper which you can use to plan out your graphics.

Notes 4

GSX expects to find the drivers (the .PRL files) on every disc. This waste of space can be avoided by changing the ASSIGN.SYS file. Using RPED, replace each @ with M. GSX will then expect to find these files on Drive M, so be sure to copy them there from your startup disc first. If you have no plotter remove the reference to DDHP7470.PRL in ASSIGN.SYS and delete this PRL file from your disc.

Unless you reset the PCW, it is impossible to stop the printer once output has been sent to it!

Oct 88 8000 PLUS 51

ooping means that an action is repeated until some condition has been met, at which point the loop ends. Say you have to produce an invoice which involves inserting a different number of items for each pass. The best way to get around it is to insert a command (like `(+Mail)` `Amount ?#; type in amount (-Mail)`) which will allow you to enter one item, include the figure in the form document, and then repeatedly jump back to the same command so that you can enter following items until you signal to the program that there are no further entries to be made.

The series of commands would look something like this:
```
(+Mail)Loop="
(+Mail)Amount =?#;type in amount(-Mail)
   (+Mail)Amount(-Mail) "(-Mail)
(+Mail)%Loop@Amount(-Mail).
```
A typical LocoMail loop like this one consists of three elements: a program unit, a test variable and a loop command. The program unit is the loop itself, or the part being repeated; it is given a name (in this case Loop seems appropriate, though you can choose anything) and is always enclosed in quotation marks.

Once you've settled on the program unit (in this case, you're instructing LocoMail to keep on providing you with the opportunity to insert a number until you no longer wish to do so), you have to insert a loop command which says 'Keep on doing this until the named condition (or test variable) is met'. The loop command is displayed, in this example, on the last line. What it is saying here is 'Repeat (% means 'repeat') the program unit called Loop until a zero amount is entered (@)'. Once the test variable, as specified in the loop command, is matched – ie. once a zero amount is entered – the loop will end.

To sum up

Of course, inserting a series of numbers without ever reaching a total or sum is probably not going to be of much use to you – especially if you're invoicing. This involves making a slight modification to the program unit so that a running total is automatically worked out before the zero amount closes the loop. Obviously the running total has to be set equal to zero before you enter any figures. If you don't, LocoMail issues an error message when it finds that the variable name Sum in the loop has not been awarded a value.
```
(+Mail)Sum=0(-Mail)
(+Mail)Loop="
(+Mail)Amount=?#;type in amount(-Mail)
   £(+Mail)Amount(-Mail)
(+Mail)Sum=[Amount + Sum](-Mail)
"(-Mail)
(+Mail)%Loop@Amount(-Mail)
   £(+Mail)Sum(-Mail)
```
Note that in our form document we have set a decimal tab stop, so that the amounts entered will all be aligned correctly. The tab facility, once set, is automatically activated when you type in the various entries at the appropriate prompt. Another very good idea (as we saw last month) is to insert the pound sign in the document before the (+Mail) code of Amount and Sum.

Zeroing in

The snag with this method is that the zero you're compelled to type in in order to break the loop must appear in the form document. This can look a little peculiar, to say the least. The solution to this problem is to insert a conditional LocoMail command of the type we've looked at earlier on in the series which will instruct the program to insert an amount only if it is not zero. You still enter the spurious value of zero to close the loop but it will not appear in the column of figures.

CHAIN REACTION

Sharon Bradley loops the loop in LocoMail

If you've been following this series you can do all the arithmetic you'll need to write invoice generators in LocoMail – adding columns of a constant number of figures, for example. So long as the number of things to add up is the same for each customer, there's no problem.

But suppose you want LocoMail to find the total of all the items someone's bought off you this month. The number is going to be different for each customer – some might have bought dozens of items, others a few, or none. Making use of LocoMail's programmed loops will help you do that.

```
   (+Mail)#Amount<>0:<(-Mail)   (+Mail)Amount(-Mail)
(+Mail)>(-Mail)
(+Mail)Sum=[Amount+Sum](-Mail) and so on.
```

Counting Down...

An alternative approach if you don't want to use these potentially complex conditional commands is to use a counter: the program asks the question 'How many items to be entered?', stores the answer in a variable counter and then, by subtracting one from the counter after each entry, repeats the loop the required number of times. Suppose the Plunket Green Operatic Society wanted to make four inserts

Code Word M

In any LocoMail command, you have to have as many `(+Mail)`s as `(-Mail)`s. The `(+Mail)` code in the first line of these commands is matched by the second `(-Mail)` code in the third line. These codes, along with the quotation marks, mark the beginning and end of the program unit or loop. The commands would be inserted into the document at the point where you wish the items to be entered.


```
Dear Mr and Mrs Cadwallader,
Thankyou for renewing your membership with the Plunkett Green Operatic Society.
Expenses incurred for two membership cards each lasting a year and tickets for next month's dinner and dance at the Pavarotti Gala House are as follows:
(+Mail)Sum=0(-Mail)
(+Mail)Counter=?;how many entries(-Mail)
(+Mail)Loop="(+Mail)Amount=?#;type in amount(-Mail) £(+Mail)amount(-Mail)(+Mail)Sum=[Amt
(+Mail)Counter=[Counter-1](@Mail)
(-Mail)(+Mail)%Loop@Counter(-Mail)
   £(+Mail)Sum(-Mail)
We would be grateful if you could cross all cheques and make them payable to the Society.
```

Sub zero

Beware of never hitting zero in a counter like this. If, in a Repeat-Until loop like this one, you were to enter zero as the number of items to be included in the column, the loop would repeat because the Counter=[Counter-1] will mean that it is no longer equal to zero at the end of the loop because it already has a value of –1 – less than zero.

If, on the other hand, the test to see whether the counter is equal to zero is performed at the beginning of the loop instead of at the end then the loop will never be executed at all. This command would be `(+Mail)@Counter%Loop(-Mail)`, the two halves of the command line we've already seen in reverse order. This marks the subtle difference between a While-Wend loop (which will not be started at all if the test variable is zero) as opposed to the Repeat-Until loop which will go on ad infinitum if you start with zero simply because ensuing Counter values are going to be less than zero and therefore as valid as any other number with a positive value.

```
Dear Mr and Mrs Cadwallader,
Thankyou for renewing your membership with the Plunkett Green Operatic
Society.
Expenses incurred for two membership cards each lasting a year and tickets
for next month's dinner and dance at the Pavarotti Gala House are as
follows:
                £13.00
                £13.00
                £5.50
                £5.50
                £37.00
We would be grateful if you could cross all cheques and make them payable
to the Society
```

String section

As we've seen LocoMail can check to see whether a loop is to be reentered by asking whether the test variable is equal to zero. But it is also possible to use a string as the test variable. When, for example, it is equal to " " (or nothing at all) the loop can be closed.

in their invoice column – and arrive at a total. The following series of LocoMail commands would be typed in at the appropriate juncture within the form document:

```
(+Mail)Sum=0(-Mail)
(+Mail)Counter=?#;type in number of items(-Mail)
(+Mail)Loop="
   £(+Mail)Amount=?;type in amount(-Mail)
(+Mail)Amount(-Mail)
(+Mail)Sum=[Amount+Sum](-Mail)
(+Mail)Counter=[Counter-1](-Mail)
"(-Mail)
(+Mail)%Loop@Counter(-Mail)
   £(+Mail)Sum(-Mail)
```

The main difference here is that having entered the number of items as four, and instructed the program to count down


```
n group 0/LOCO2  .825 Editing text.              Printer idle.  Using A:
Layout      1  Pii2   LS1    CR+0   LP6                      Page   1  line  1/1
l=Actions    f2=Layout   f3=Style   f4=Size   f5=Page   f7=Spell   f8=Options  EXIT
```

one after each entry, the loop command is now saying, in effect, carry on going until the counter is at zero. In other words, the loop will close after the fourth entry has been made and not before. This avoids any spurious zeroes appearing in the final printout of the form document. Remember, however, to specify `Counter=[Counter-1]` or you'll still be there, locked in the same loop, in a hundred years' time.

It may, incidentally, be more helpful to you to type in the above series of commands in the same way that they have been entered into the Plunket Green form document. As they stand at the moment, at least two carriage returns will materialise between each entry instead of just one or none at all.

Sensible answers only

LocoMail is also good at checking data input at the keyboard to see whether it's sensible – a process known as data validation. This prevents someone giving the answer to the question 'Sex?' as anything but M or F, for example.

Imagine particular circumstances within a form document requiring you to press either the [Y] or [N] key so that a different section of text is included depending on who you're writing to. Just like the conditional mailmerge commands we saw earlier on in the series you would insert a command something like the following to input the actual key press:

`(+Mail)Response=?;press [Y] or [N](-Mail)`

followed by two commands to determine which text should be printed:

```
(+Mail)#Response="y":<(-Mail)(+Mail)>Please
don't forget that our final dress rehearsal for
HMS Pinafore will be taking place all day
Saturday, 15th October (-Mail)
```

and

```
(+Mail)#Response="n":<(-Mail)(+Mail)>Please make
a note in your diaries that on Monday, 17th
October, at 8.00pm, there will be the
opportunity to see some of our more active
members performing HMS Pinafore at The Globe. (-
Mail).
```

The trouble with this is that if some key other than [Y] or [N] is pressed, accidentally or otherwise, then neither of the conditional texts will be printed out. Setting up a loop structure that will insist on only one or other of these two keys being pressed will solve that problem. You can create a structure, for example, that will continue to loop back to the Response prompt until one or other of the right keys has been pressed. Only when that happens will the test string be equal to null so that the loop can close.

The program unit would look something like this:

```
(+Mail)Teststring="A"(-Mail)
(+Mail)Loop="
(+Mail)Keypress =?;Type [Y] or [N](-Mail)
(+Mail)#Keypress="Y" OR
Keypress="N":<:Teststring=" ":>(-Mail)
(+Mail)#Keypress="Y":<(-Mail)You pressed
[Y](+Mail)>#Keypress="N":<(-Mail)You pressed
[N](+Mail)>(-Mail)
"(-Mail)
(+Mail)%Loop@Teststring(-Mail)
```

If a key other than [Y] or [N] is pressed, then the loop will carry on repeating. One of the most annoying results of this particular method is that you'll be left with a number of spurious carriage returns in the finished document where the unused text was. Unfortunately, there's no way round this other than stamping them out manually with the delete keys.

A validation technique like this can be particularly useful when it comes to checking that a number has been entered within a specified maximum and minimum range. The loop can be made to repeat itself until such times as the number in question does fall within the desired range. ∎

Odds 'n' sods

LocoMail is a very powerful program requiring quite a lot of thought and organization on your part before you actually put it into operation. So when your program doesn't work properly first time round, it's as annoying as it is difficult to spot exactly where you've gone wrong.

LocoMail command syntax error: this means that you've made a mistake with one of LocoMail's many codes. Perhaps you've missed a `(+Mail)` or `(-Mail)` out, inserted it where you don't need it, or typed it back to front. Unfortunately these mistakes are difficult to spot but easy to put right once you have spotted them. More difficult to correct are those slips which have occurred through

a basic misunderstanding of the programming codes.

Name does not exist: this error will clearly be displayed if for some reason or another you reach the end of a loop before a value has been assigned to the variable. It will also occur if the name specified after the repeat symbol (%) in the loop command is not the same as that previously given to the loop.

Command type mismatch: this warning will occur if you treat incompatible variable types as if they were equal – for example, trying to add £5 to £10. LocoMail doesn't like you mixing the £ signs and figures and you can only add them as simple figures.

LISTINGS

Pretty pictures and pretty text: find out how to make a BASIC program a thing of beauty

DRAWING PACKAGE
by Nick Harmer and Jonathan Baggaley

When we carried the listing for the Plot Routine by Lawrence Simons (a clever little program to switch pixels on or off) it was predicted that we would see some ingenious applications over the coming months. And sure enough this is one the best of the flood of programs all based round this utility.

It's a drawing package that allows you to produce effective and quite accurate graphics on screen. Run the program and the screen goes blank except for a tiny dot in the centre. You can move this dot in any direction using the keys W – Up, Z – down, A – left and S – right, a quite sensible group of keys at the far left of the key board. This will produce a straight line which can be positioned very accurately.
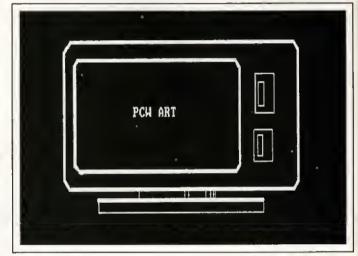
If you want a thicker line press 2 for double thickness and 1 to take you back to the thin line. Make a mistake and you just press E for erase which will remove every pixel you cross until you press I for ink. If you want to move to another part of the screen without leaving a line, press U for brush up and D for brush down starts the flow of 'paint' again. Finally you can add text anywhere you want by simply pressing T for text. When you press return you will return to the normal mode.

As the cursor is normally not shown (except in text mode) it is possible to lose yourself on the screen. At this point chose F and the pixel where the cursor is positioned will flash on and off for a few seconds.

When you are totally delighted with the results you can, of course, get a hard copy of

the drawing by pressing [EXTRA] and [PTR] at the same time.

As the program is based on the Plot Routine printed in our August edition any Listings Plus devotees who have already typed this in can save themselves a lot of trouble by merging the lines from 50000 on with new program. ■

```
10 GOSUB 50000                                              04A0
20 PRINT CHR$(27)+"H";CHR$(27)+"E";CHR$(27)+"f"             0BC8
30 X%=360: REM X POS                                        0636
40 V%=0: REM BRUSH SIZE                                     085E
50 Y%=128: REM Y POS                                        063D
60 P%=1:REM BRUSH POSITION (DOWN/UP)                        0E2F
70 F%=1: REM BRUSH STATE (INK/ERASE)                        0CE5
80 LET C$=INKEY$                                            06E8
90 IF C$="A" OR C$="a" AND X%>0 THEN LET X%=X%-1            0DC9
100 IF C$="S" OR C$="s" AND X%<718 THEN LET X%=X%+1         0E9D
110 IF C$="W" OR C$="w" AND Y%<256 THEN LET Y%=Y%+1         0EC1
120 IF C$="Z" OR C$="z" AND Y%>8 THEN LET Y%=Y%-1           0F92
130 IF C$="I" OR C$="i" THEN LET F%=1: REM INK ON           100D
140 IF C$="E" OR C$="e" THEN LET F%=0: REM INK ERASE        11BD
150 IF C$="C" OR C$="c" THEN PRINT CHR$(27)+"H";CHR$(27)+"E" 1089
160 IF C$="D" OR C$="d" THEN LET P%=1                       0B7D
170 IF C$="U" OR C$="u" THEN LET P%=0                       0BF4
180 IF C$="T" OR C$="t" THEN GOSUB 260                      0C53
190 IF C$="2" THEN V%=1                                     0681
```

```
200 IF C$="1" THEN V%=0                                                        0668
210 IF C$="F" OR C$="f" THEN 360                                               08E4
220 IF P%=0    THEN GOTO 80                                                    0815
230 CALL PLOT (X%,Y%,F%)                                                       07AC
240 IF V%=1 THEN 290                                                           06A7
250 GOTO 80                                                                    036C
260 A%=X%/8:B%=INT((256-Y%)/8):PRINT CHR$(27)+"e";                            0D57
270 PRINT CHR$(27)+"Y"+CHR$(32+B%)+CHR$(32+A%);:INPUT "",T$:PRINT CHR$(27)+"f"; 16AA
280 RETURN                                                                     03C2
290 A%=X%-1:B%=X%+1:C%=Y%-1:D%=Y%+1                                            08BC
300 IF X%>0 THEN CALL PLOT (A%,Y%,F%)                                          0C3D
310 IF X%<718 THEN CALL PLOT (B%,Y%,F%)                                        0BF4
320 IF Y%<255 THEN CALL PLOT (X%,D%,F%)                                        0C4A
330 IF Y%>0 THEN CALL PLOT (X%,C%,F%)                                          0C09
340 GOTO 80                                                                    036B
350 G%=F%                                                                      01DD
360 FOR Z=1 TO 25                                                              059A
370 G%=(G%+1) AND 1                                                       (2)   03B3
```

```
380 CALL PLOT (X%,Y%,G%)                                                       07BC
390 FOR Y=1 TO 50:NEXT Y                                                       08A4
400 NEXT Z                                                                     0367
410 GOTO 80                                                                    0366
50000 MEMORY &HBFFF:PLOT=&HC000:A=PLOT:E=0                                     0F5F
50010 RESTORE 50120                                                            05C2
50020 FOR F=0 TO 14                                                            0537
50030 S=0                                                                      024B
50040 FOR G=0 TO 7                                                             052C
50050 READ X$:X=VAL("&H"+X$)                                                   0789
50060 S=S+X:POKE A,X:A=A+1:NEXT                                                0B3C
50070 READ X$:IF S<>VAL("&H"+X$) THEN E=E+1:PRINT "ERROR IN LINE ";10*(F+5012) 19E8
50080 NEXT                                                                     02D2
50090 IF E=0 THEN RETURN                                                       0922
50100 PRINT E;"ERROR";:IF E=1 THEN PRINT ELSE PRINT "S"                        12FD
50110 STOP                                                                     02C6
50120 DATA 0A,32,7C,C0,4E,23,46,21,250                                         0887
50130 DATA CF,02,A7,ED,42,D8,ED,43,4AF                                   (3)   09B1
```

```
50140 DATA 78,C0,EB,5E,23,56,7A,A7,41B                                         0994
50150 DATA C0,93,3D,5F,ED,53,7A,C0,469                                         094F
50160 DATA F3,ED,73,7D,C0,31,9D,C0,51E                                         095C
50170 DATA 01,36,C0,CD,5A,FC,E9,00,403                                         0953
50180 DATA ED,7B,7D,C0,FB,C9,2A,7A,50D                                         09F3
50190 DATA C0,29,11,00,B6,19,5E,23,24A                                         0823
50200 DATA 56,7B,E6,F8,CB,27,CB,12,47E                                         08FC
50210 DATA 47,7B,E6,07,B0,5F,2A,78,360                                         08CD
50220 DATA C0,45,7D,E6,F8,6F,EB,19,4D3                                         0955
50230 DATA 78,E6,07,3C,47,AF,37,1F,2ED                                         09C0
50240 DATA 10,FD,47,3A,7C,C0,A7,20,391                                         08E7
50250 DATA 05,78,2F,A6,77,C9,3D,78,347                                         0926
50260 DATA 20,03,B6,77,C9,AE,77,C9,407                                         091B
```
(4)

DOUBLE WIDTH TEXT

by Lawrence Simons

Everyone knows how to get enlarged text when printing out (in case you don't it involves typing in LPRINT CHR$ (27) +"W"+CHR$ (1) in BASIC) but can you do it so that the letters appear double width on screen? Well you can know if you just type in this listing from Larry Simons.

The important part of the program is the bit from 52000 onwards which does all the fancy stuff. This looks terribly complicated but it does have its own error checking for the data lines.

The first part just shows you how to use the program. The idea is that you add the utility at the end of your own program and run it as a GOSUB somewhere early in the process.

Then whenever you want to produce double width text you just have to assign values to the variables L%, C%, A$ and V%. These are reasonable obvious. L% decides in what line the text will be written and C% allows you to choose the column (obviously L% must not be greater than 30 and C% cannot be more than 88).

The variable A$ is the actual text you want to appear and V$ decided whether the text is printed normally or in reverse video. If V$ is nothing it prints normally, anything else and it is reversed.

Then just use the line CALL DWPRINT (L%, C%, A$, V%) and the text appears on screen in a suitably impressive lengthened condition.■

```
Ok
run
What line ? 5
What column? 15
What text ? Hello There!
Normal or reverse video (N/R)? r
```

```
Hello There!
```

```
10  GOSUB 52000                                               04A4
20  INPUT "What line "; L%                                    0903
30  INPUT "What column"; C%                                   0972
40  INPUT "What text "; A$                                    0920
50  INPUT "Normal or reverse video (N/R)";N$                  0FDB
60  IF UPPER$(n$)="R" THEN V%=1 ELSE v%=0                      0C6E
70  PRINT CHR$(27)+"E"+CHR$(27)+"H"                           086D
80  CALL DWPRINT(L%,C%,A$,V%)                                 0958
90  END                                                       0219
52000 REM Set up DWPRINT machine-code routine                 12B6
52010 MEMORY &HBFFF                                           0613
52020 DWPRINT=&HC200:A=DWPRINT:E=0                            0C98
52030 RESTORE 52150                                          05D4
52040 FOR F=0 TO 46                                          0545
52050 S=0                                                    0257
52060 FOR G=0 TO 7                            ①              0538
52070 READ X$:X=VAL("&H"+X$)                                 0795
```

```
52080 S=S+X:POKE A,X:A=A+1                                   08E3
52090 NEXT                                                   02DA
52100 READ X$:IF S<>VAL("&H"+X$) THEN E=E+1:PRINT "ERROR IN LINE";10*(F+5215)  19E8
52110 NEXT                                                   02BD
52120 IF E=0 THEN RETURN                                     090D
52130 PRINT E;"ERROR";:IF E=1 THEN PRINT ELSE PRINT "S"      130D
52140 END                                                    0216
52150 DATA ED, 43, 74, C3, 46, 23, 7E, A7, 3F5               090E
52160 DATA 20, 11, 78, FE, 1F, 30, 0C, EB, 2ED               094F
52170 DATA 4E, 23, 7E, A7, 20, 05, 79, FE, 332               0948
52180 DATA 59, 38, 45, 11, 23, C2, 0E, 09, 1E3               084D
52190 DATA C3, 05, 00, 0D, 0A, 44, 57, 50, 1CA               087A
52200 DATA 52, 49, 4E, 54, 3A, 20, 62, 61, 25A               0832
52210 DATA 64, 20, 6C, 69, 6E, 65, 2F, 63, 2BE               08AA
52220 DATA 6F, 6C, 75, 6D, 6E, 20, 6E, 75, 32E               090F
52230 DATA 6D, 62, 65, 72, 0D, 0A, 24, 0E, 1EF               08F6
52240 DATA 20, 7C, 81, 32, 5A, C2, 7D, 81, 369    ②         085F
```

```
52250 DATA 32, 5B, C2, 11, 58, C2, 18, C6, 358               0881
52260 DATA 1B, 59, 00, 00, 80, 0D, 0A, 80, 18B               0857
52270 DATA ED, 43, 72, C3, 2A, 74, C3, 5E, 424               0947
52280 DATA 23, 56, 23, EB, 7E, A7, C8, ED, 461               09A3
52290 DATA 73, 76, C3, 31, 96, C3, 08, 23, 361               0879
52300 DATA 4E, 23, 46, ED, 43, 74, C3, EB, 409               0978
52310 DATA 5E, 23, 56, EB, 5E, 23, 56, 21, 2BA               0903
52320 DATA 00, 00, A7, ED, 52, 9F, 32, 71, 328               091C
52330 DATA C3, 0E, 6E, 11, FF, FF, CD, 05, 420               091B
52340 DATA 00, F5, 0E, 6E, 11, 80, 00, CD, 2CF               0969
52350 DATA 05, 00, CD, 5A, FC, C5, 00, F5, 3E2               0940
52360 DATA 3E, FF, CD, 5A, FC, C8, 00, CD, 4F5               0A5C
52370 DATA 5A, FC, BF, 00, 09, E5, 08, 47, 352               0948
52380 DATA C5, 2A, 72, C3, CD, 47, C2, 2A, 424               0900
52390 DATA 74, C3, 7E, 23, 22, 74, C3, 01, 332               08A1
52400 DATA 11, C3, CD, 5A, FC, E9, 00, 3A, 41A    ③         09BC
```

The continuation of the Double Width text listing (see page 58)

```
52520 DATA 23, 56, 7B, E6, F8, CB, 27, CB, 48F    09BD
52530 DATA 12, 47, 7B, E6, 07, B0, 5F, 3A, 30A    090E
52540 DATA 72, C3, 6F, 26, 00, 29, 29, 29, 245    08C6
52550 DATA 19, EB, E1, 06, 08, C5, E5, 4E, 3EB    093A
52560 DATA 06, 04, CB, 19, CB, 1D, CB, 2D, 2CE    0921
52570 DATA 10, F8, 3A, 71, C3, AD, 21, 08, 34C    093E
52580 DATA 00, 19, 77, 06, 04, CB, 19, CB, 249    08EC
52590 DATA 1D, CB, 2D, 10, F8, 3A, 71, C3, 38B    0951
52600 DATA AD, 12, E1, C1, 23, 13, 10, D5, 37C    08E0
52610 DATA C9, 00, 00, 00, 00, 00, 00, 00, 0C9    079F
```

④

```
52410 DATA 72, C3, 3C, 3C, FE, 59, 38, 18, 354    0944
52420 DATA D6, 5A, ED, 44, F5, 3A, 73, C3, 4C6    0922
52430 DATA FE, 1E, F5, CE, 00, 32, 73, C3, 447    096C
52440 DATA 11, 5D, C2, F1, CC, 1E, C2, F1, 4BE    091F
52450 DATA 32, 72, C3, C1, 10, C2, E1, CD, 4A8    0913
52460 DATA 47, C2, F1, 20, 06, AF, CD, 5A, 3F6    0957
52470 DATA FC, C8, 00, F1, 0E, 6E, 5F, 16, 3A6    09B3
52480 DATA 00, CD, 05, 00, ED, 7B, 76, C3, 373    08E3
52490 DATA C9, 11, 00, B8, 6F, 63, 29, 29, 2B6    08DE
52500 DATA 29, 19, E5, 3A, 73, C3, 6F, 63, 369    08C7
52510 DATA 29, 29, 29, 29, 15, 15, 19, 5E, 145    086A
```

⑤

Good programs needed!

We're looking for well written programs of up to 50 or so lines which we can print in these listings pages each month. Of course, since we can fit more of the shorter listings in, and they're easier to type, the longer ones have to be really special!

If you can program you could earn hard cash and instant fame by having your program printed in 8000 Plus. Give instructions on an accompanying sheet for using the program, and if there are any useful modifications that readers can make by simple edits to customise the program, mention those too.

To submit a listing you must supply:
1) A printout of the listing;
2) A disc on which it is saved;
3) A stamped addressed padded bag for its return;
4) An explanation of what it does and how to use it;
5) A signed statement confirming that the program is your own work and hasn't been submitted to anyone else.

Send all this to Listings, 8000 Plus, Bath BA1 1EJ and allow up to 40 days for the return of your disc – we assess the listings in a batch once a month.

How to type in a listing

Load up Mallard BASIC – to do that, insert your CP/M disc, reset the machine and at the A> prompt type BASIC[RETURN]. Now you see the 'Ok' prompt. Just type in the lines of the listing exactly as they are printed on the page (but not the numbers on the extreme right). Type LIST at any time to print out your typing so far to the screen; if you want a printout to pore over, type LLIST.

Mistakes made before you press RETURN can be corrected with the DEL keys, otherwise you have to use the line editor. Suppose you've made a mistake in line 100; type EDIT 100 and then you can use the cursor keys and DEL keys to correct it. Press RETURN when the line is OK. To delete a line, type its number only and press

RETURN.

When you've finished, save the program to a disc by the command SAVE "FRED (or any other suitable name of eight letters or less). To run the program, type RUN.

Programs rarely run first time, but when BASIC encounters a mistake it tells you where it is. 'Syntax Error in line 60' means a mistake in that line (though the actual typing error may have occurred in a previous line, causing problems in this one). Other error messages can often occur too. Use the EDIT command to correct it.

You can rerun the program another day by loading BASIC up as before and, with the disc on which you saved the program in the drive, typing LOAD "FRED and then RUN.

PERSONALISED PROGRAMS
by Chris Shipp

Personalising a program so that it says "This copy belongs to.." at the beginning may seem a silly idea but showing you

how to personalise your BASIC programs actually gives you a technique that has thousands of applications.... probably. In effect this is fourth generation computing come to the PCW – a program that writes other programs.

The idea is remarkably simple. If you had this routine at the beginning of your program you could get users to enter any number of important details that are used in the program but only really need to be entered once. For instance if it is the same person always using the program there is no real need for them to constantly enter their name and address each time they run it.

The program writes any details you choose

to a temporary files in M drive and then merges them with the current program. It goes on to delete the lines carrying the customising part of the program so that the next time you run the program you start with all the details already embedded in the program without having to enter them.

This means that you can hand out your program to thousands of people and get them to customise them in one easy process. Which you must admit sounds a lot more impressive than just being able to have "This copy belongs to..." at the beginning of the program.■

```
10 PRINT CHR$(27);"E";CHR$(27);"H": IF first=1 THEN SAVE "PROGALT              156F
20 PRINT "Thank you for using 'PROGALT' - please enter your name and address below:"  21E2
30 PRINT :LINE INPUT x$                                                        08FD
40 q$=CHR$(34): REM # quotation marks #                                        0CAA
50 OPEN "O",1,"m:temp.bas"                                                     07C0
60 PRINT #1,"20 PRINT ";q$;"Welcome to 'PROGALT' - this copy belongs to:";q$   1A3C
70 PRINT #1,"30 PRINT:PRINT ";q$;x$;q$                                         0D08
80 first=1:CLOSE 1                                                             06E0
90 CHAIN MERGE "m:temp.bas",10,ALL,DELETE 20-90                                0E82
100 PRINT:PRINT "...The rest of the program continues from here..."           1B01
```

Small is beautiful (cheaper)

Here's a tip for compressing a lot of text into a small space on an 8256 or 8512. Set line spacing to $\frac{1}{2}$ and pitch to 17. (You do this either with the codes [+]LS$\frac{1}{2}$[+]P17 or via [f4].) Then before the text select superscript with [+]SR or via [f3].

You can still use italic. If you want normal text after this, reverse the codes by the same menus as you set them or by the sequence [-]LS[-]P[-]SR. This is great for the small print on contracts.

John Dunstall
Polegate, E Sussex

```
THE SMALL PRINT
1. The vendor reserves the
the asking price by an arb
the event of an emergency,
offered more by somebody e
2. This contract is not va
3. The agents handling the
the right to charge lots of
doing anything
4. The people you thought
old house may well drop ou
minute when they get gazum
they're buying
5. Don't believe a word of
contract. The solicitor who
sacked for misconduct in 19
```

TIP OFFS

More and handier tips than a council amenity site

Feel you're wasting time in CP/M? Think the manual for your program is junk? Refuse to believe you can do what you want in LocoScript? Rubbish! Don't be down in the dumps, come to TipOffs, where your indispensible advice isn't given in a throwaway fashion.

Send your tips to: *TipOffs, 8000 Plus, 4 Queen St, Bath BA1 1EJ* – the best win £30! Find a good tip and it's money for old rope! Picking up the dosh this month is Berry Baker of Caterham who has invaluable advice for all Mini Office databasers, and Daniel Evans of London for his ingenious use of Mini Office's opening menu.

Mail domination

Many Mini Office and LocoMail owners (all 9512 owners have LocoMail) find that the Mini Office database is useful, but LocoMail is much better than Mini Office's mail merger. You can have the best of both worlds!

Create a mail merge file in Mini Office from your database and save. It helps for later on if you make the final field a number whose lead character is $ or something else you won't be using. When entering the data just leave it blank so it reads $0.00. Then reset with [SHIFT][EXTRA][EXIT] and insert the LocoScript start of day disc. Reinsert your Mini Office data disc and press [f7]. All your Mini Office files are there neatly listed in group 0.

Create a new document in a suitable group and open it for editing. From [f1] select 'Insert text' and on the prompt select the mail merge file. You will see the database neatly insert itself into your new document with [RETURN]s separating all the fields.

Edit the Mini Office header away. If you have put a $0.00marker as the last field in each record, you can exchange each [RETURN]$0[RETURN] for a new page marker, putting one record to a page automatically (otherwise do it manually). Press [EXCH]. Give [RETURN]$0 [RETURN] as the string to be searched for, and then [ALT][RETURN] as the string to replace it with. Select 'automatic

exchange to end of document'.

You can now set up your master letter in the usual way for LocoMail using whatever information you need from the database, putting the field name between prompts and merge as usual.

This has great implications, because it means contrary to what everyone seems to say you *can* export data from Mini Office's database!

Berry Baker
Caterham, Surrey

An entry in the database in Mini Office

How your mail merge file looks after insertion

The mail merge file tidied up

BASIC tip

Random file store information as strings. To store numeric data it must first be converted to a string using MKS$ commands for a single length number and MKI$ for an integer. These commands produce 4 and 2 byte strings respectively and it is important that the field statement reserves the appropriate space.

For example to convert the single length number 'amount' and the integer 'code' use LSET amount$=MKS$(amount) : LSET code$=CVI$(code%). The field statement must then contain FIELD 1,4 AS amount$,2 AS code$
J Gray
Oldham

PIPped at the end

A useful device to create short text files in CP/M without a text editor is to use PIP. By typing PIP SHORT.DOC=CON:[RETURN], whatever you type at the keyboard is stored in the file SHORT.DOC (including escape codes like [EXIT]E[EXIT]H which clear the screen when you TYPE SHORT.DOC.) You end the file with [ALT]Z.

It is often said that the problem with this is that mistakes cannot be rectified: if you try to use the [DEL] keys they just produce zeroes on screen and do not delete. In fact, you *can* retype mistyped lines – pressing the [CAN] key moves the cursor back and you can overwrite your error.
Brian Haylett
Caister-on-Sea, Great Yarmouth

Heading for success

LocoMail owners have a quick way of getting extra bold headings. Normally you do this by overprinting the same bold message twice, superimposing the second on the first. By slightly displacing them relative to each other you get a thick bold effect. Normally you have to type in the same heading twice, which can be fiddly. With LocoMail you can make it much easier.

Create a document called, say, BOLDHEAD. It contains the following:
(+LS0) (+Bold)[RETURN]
(+CE) (+P17) (space) (+P10D)
(+Mail) heading (-Mail) (+P17)
(space)[RETURN]
(+CE) (+P15) (space) (+P10D)
(+Mail) heading (-Mail) (+P17)

Short & Blount plc
Annual Report 1988

Special menu

Mini Office owners can use the OFFICE.COM program from their master disc to run any program, not just Mini Office's. If you look at the hidden files on disc (by typing DIRSYS you will see that the suite of programs are called: WORD.COM – word processor DBASE.COM – database SHEET.COM – spreadsheet GRAPH.COM – graphics COMMS.COM – communications When you run OFFICE and select, say 'Word processor', the program called WORD.COM gets run, and so on. So, by renaming Protext as WORD.COM, then putting OFFICE.COM on the same disc, Protext will be run from the main menu when you select 'Word processor' (or just press 'W'). Protext owners will probably prefer to use that than Mini Office's word processor.

Similarly you can rename SC2.COM as SHEET.COM to run SuperCalc, or MF8000.COM to DBASE.COM to run Masterfile, or NEWSDESK.COM to GRAPH.COM to run Newsdesk.

But what about your DTP, BASIC, your adventure game, your accounts package? These are not on the menu. However, with help from SID and a little ingenuity, you can alter the main menu program so that it will display whatever you want. (SID was described in detail in July's 8000 Plus, issue 22).

Here's how to change the word 'communications' in the main menu to 'BASIC'. You need your CP/M disc (side 3 on 8000s) and a *copy* of your OFFICE.COM program on an otherwise blank disc (first insert your CP/M disc and type PIP[RETURN]. Then at the asterisk insert your Mini Office master disc and type M:=A:OFFICE.COM. Then insert a

blank disc and type A:=M:OFFICE.COM. [STOP] gets the A> prompt back).

Insert your CP/M disc (side 2 on 8000s) and type SET B:OFFICE.COM[RW][RETURN]. You'll be prompted to 'insert a disc for B' at which point you swop your CP/M disc for your OFFICE.COM copy disc. You should get a message saying OFFICE.COM has been set to read-write. (On an 8512, put the CP/M disc in the B drive, the OFFICE.COM disc in A and type B:SET A:OFFICE.COM [RW][RETURN]).

Insert your CP/M disc (side 3 on 8000s) and type SID[RETURN]. (If you get a 'please insert the disc for A' message just press any key). Then insert your disc with OFFICE.COM on it and type after the # prompt RA:OFFICE.COM[RETURN]. After a while some nonsense appears on screen. Ignore it.

Type d0d00[RETURN]. You should see three tables of figures appear, the right hand one containing familiar bits of text – the words that appear on the opening menu. 'Communications' is the one to change. If you count across

the middle table with the one on the right you might be able to see that the first letter of 'Communications' matches the '43' near the right hand side of the middle table.

The '0D70' on the far left is the 'address' (OK, more like a postcode) of the first number in the middle table. Counting across until you get to that '43', you go 0d70, 0d71, 0d72...0d79, 0d7a. The 0d7a is the address of the 'C' of 'Communications'.

Now type s0d7a[RETURN]. SID replies with 0D7A 43, which is the one to change. The type the following very carefully: "BASIC followed by *exactly* nine spaces (to make the whole thing fourteen spaces long, the same width as the word 'Communications'). Then press [RETURN] followed by a full stop (to show you've finished).

Save your amended version by typing WA:OFFICE.COM[RETURN] and when it's finished (it'll tell you it's written some records) leave SID by typing [STOP].

Now copy BASIC.COM onto your office copy disc but name it COMMS.COM (insert your CP/M disc and type PIP[RETURN]. At the asterisk type


```
A)sid
CP/M 3 SID - Version 3.0
#ra:office.com
NEXT MSZE PC END
4980 4980 0100 DAFF
#d0d00
0D00: 00 00 00 07 11 17 0D 2D 0D 34 0D 48 0D 56 0D 67 .......-.4.H.U.g
0D10: 0D 75 0D 89 0D A2 0D 4D 69 6E 69 20 4F 66 66 69 .u.....Mini Offi
0D20: 63 65 20 4D 61 69 6E 20 4D 65 6E 75 00 57 44 53 ce Main Menu.WDS
0D30: 47 43 55 1B 39 0D B7 2A 0D 57 6F 72 64 20 70 72 GCU.9..*.Word pr
0D40: 6F 63 65 73 73 6F 72 00 4D 0D BD 2A 0D 44 61 74 ocessor.M..*.Dat
0D50: 61 62 61 73 65 00 5B 0D C3 2A 0D 53 70 72 65 61 abase.[..*.Sprea
0D60: 64 73 68 65 65 74 00 6C 0D C9 2A 0D 47 72 61 70 dsheet.l..*.Grap
0D70: 68 69 63 73 00 7A 0D CF 2A 0D 43 6F 6D 6D 75 6E hics.z..*.Commun
0D80: 69 63 61 74 69 6F 6E 73 00 8E 0D 59 20 00 44 69 ications...Y..Di
0D90: 73 63 20 75 74 69 6C 69 74 69 65 73 20 20 69 64 sc utilities  id
0DA0: 75 00 A7 0D 9B 0E 00 45 78 69 74 20 74 6F 20 43 u......Exit to C
0DB0: 50 2F 4D 00 07 0E C9 0D D2 0D D9 0D PM...........
#s0d7a
0D7A 43 "BASIC
0D88 00 .
#ua:office.com
0089h record(s) written.
#tC
A)
```

(space)[RETURN]
(-LS) (-B) [RETURN]
Now whenever you want a letter or document with a double-bold heading or letterhead, just press F for 'Fill' with the cursor on BOLDHEAD in the disc manager. You are asked to type in a heading. Type in the text, finishing with [ENTER], then add the rest of the document.

'Save' the result, giving it an appropriate name and putting in an appropriate group, and/or print out. 9512 owners will probably find that (+P15D) works better than (+P10D). Of course you can experiment with any pitch sizes you like. For

an extra thick bold effect, repeat the second 'heading' line above to make three superimposed headings.
Zena Diamandis
Letchworth, Herts

Sort of useful

You can use SuperCalc to sort a list of words into alphabetical order, for example if you are compiling a glossary or index. Here are the steps. It assumes the words to be indexed are in column A and the entries for each are in column C. For a simple page index you need only columns A and B, putting the page numbers in B.
1. Load CP/M, insert your

SuperCalc disc, and type SC2[RETURN]
2. Enter /F to widen the column to 30, say, then /F again to narrow column B to 4 letters wide, then /F again to widen C to 40 or so.
3. Type = in cell B1 and use the /R replicate command in column B to get a whole column of = signs.
4. Type in your words in columns A and C in any order, preceding each with an open quote " and ending each with [ENTER].
5. Use the /A adjust command on column A to list this in alphabetical order – instantly, column C's contents move in step with column A.
6. Use the /O output command selecting P for printer to get a hard

```
┌──────────────────────────────────────┐
│  Mini Office Professional            │
│ ┌──────────────────────────────────┐ │
│ │  Special hacked menu             │ │
│ └──────────────────────────────────┘ │
│   Accounts                           │
│   DTP                                │
│   Scrabble                           │
│   Indexer                            │
│   BASIC                              │
│   Disc utilities menu                │
│   Exit to CP/M                       │
│ ┌──────────────────────────────────┐ │
│ │ Use ↓ and ↑ to select, then ENTER│ │
│ └──────────────────────────────────┘ │
│        © Database Software 1987      │
└──────────────────────────────────────┘
```

`M:=A:BASIC.COM[RETURN]` then at the next asterisk insert your office disc and type `A:COMMS.COM=M:BASIC.COM[RETURN]`. [STOP] gets you back to the A> prompt.

If you now type OFFICE your amended menu comes up, and by moving the cursor down to BASIC and pressing [RETURN] you get BASIC run for you!

This makes the above procedure ideal if you want to customise your programs to make them easily runnable by someone not familiar with computers. You can adapt the OFFICE menu like this for up to five programs at a time.

The procedure to alter any of the other names on the menu is similar to that above, but in place of the 0d7a you substitute 0d39 for when you change 'Word processor', 0d4d for changing 'Database', 0d5b when changing 'Spreadsheet', and 0d6c when changing 'Graphics'. Always make sure the text you substitute is exactly the same length as the word or words it replaces, and remember to rename your programs after the Mini Office ones they replace.

If you want to use the trick of just pressing one letter to run your program instead of cursors plus [ENTER] (as when you press S to select the spreadsheet in Mini Office) you have another change to make in SID. Just before the word 'Word processor' you see the word WDSGCU. These are the first letters of word processor, database, spreadsheet and so on. Replace this word in a similar way to that above with an appropriate leters; for example, if you hack the menu to run Accounts, DTP, Scrabble, an Indexer and BASIC, you would substitute with the command s0d2d "ADSIB followed by a full stop. Then you can select any of your utilities just by pressing their first letter, very impressive! Of course the letters must be different.

It's best if you have all the files you want to run on one disc, but it's not essential as Mini Office prompts you to change discs if necessary. If you run them on a 9512 of course overcrowding isn't a problem.
Daniel Evans, London, and Alun Lewis, London

normal.

LocoScript 1 was quite happy if you told it that it had extra lines, but version 2 seems stricter. You will need to create a special class of paper, say 'A4+4' which is four or five lines longer than the paper you are actually using.
R Shuttleworth
Coventry

Free memory upgrade

For poor people who, like me, can't afford the memory upgrade for their trusty 8256, a way of increasing the M drive while using LocoScript or LocoSpell is to start LocoScript but leave off the MATRIX.PRI file off the disc. You get 24k free on the memory instead of a mere 8k. Of course, you can't drive the printer without the MATRIX file!
Brad Allen
South Shields, Tyne and Wear

Time and motion

Here's a system of adding up time values in a spreadsheet, in hours and minutes. It's based on Mini Office's spreadsheet, though it applies to any similar spreadsheet such as SuperCalc.

Suppose you want to total up some times in column B. The cell B4 is to hold the total of times in B1 to B3. Type in the times as decimal numbers, ie. 12.55 for 12 hours 55 minutes. The adjacent column is going to do the donkey work of conversion. If the time is in cell B1, enter in C1 the formula
`((B1-int(B1)/0.6)+int(B1))`
(call this formula 1).

This converts hours and minutes into decimal for addition purposes. Then you can duplicate relatively down the column:

	A	B	C
001		hr.min	formula 1
002		hr.min	formula 1
003		hr.min	formula 1
004	TOTALS	formula 2	sum(c1:c3)

Cell B4 holds the formula
`int((C4-(int(C4))*60)/100 +int(C4)` (this is formula 2).

You will then have the total of the times in B1 to B3 displayed in B4, in hours and minutes.

All the stuff in column C you can ignore on a printout – if your spreadsheet has the option of making a column invisible you may as well do this to stop cluttering the screen up. You might get an error of up to five minutes but this will be fine for most purposes.
T Buddin
Ely

Label remover

Here's a way of avoiding sticky messes when you remove disc labels to make way for new ones.(such as the 8000 Plus disc labels).

Nail varnish remover on a piece of cotton wool releases the label which can be lifted by a fingernail. Give the disc a good rub with the wool, wipe with a spot of baby oil, and you have a clean disc ready for its new label.
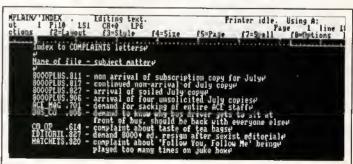**Albert King**
Rosehill, Co Down

Index link

It can be a good idea to keep an index of the documents you have in a group as document in itself. Make a new document called 'INDEX (the first character is a normal apostrophe to make sure the index is the first document in the group).

Inside the index document, you simply list the files in the group in alphabetical order and give a short description of each.
Simon Carse
Lindfield, W Sussex

copy, or use the /S command, giving an appropriate name, to save the file to disc.

7. Use the /Z command to clear the spreadsheet off the screen, then leave SuperCalc with /Q. You can insert the file, if you've saved it, into a LocoScript document as normal (ie. using the 'Insert text' option, [f1] in LocoScript 2, [f7] in LocoScript 1). However I find that only files ending in .COM, .HLP, .OVL, .SDI, .EMS and .SUB will insert properly.
R Berger
Leyburn, North Yorkshire

Bar six

It is often said that you can't print

on the top six lines of a piece of A4 single sheet paper, but if you grudge this unused space, you can just persuade your printer to use it.

Load and align the paper in the usual way. pull the bail-bar back and wind the paper down until you can just see its edge. Advance the bail-bar until the machine stops displaying the message 'Bail bar back' – it is very important that the end of the bar does not flip closer to the roller than the right hand end, because it may snag the paper as it rolls on. Initiate printing while holding the bail-bar in this position, and continue to hold it so, until sufficient paper has been wound up to allow it pass under the bail-bar. Then drop the bar to

THE GOOD·SOFTWARE FILE

These pages provide a guide to the best software around for the Amstrad PCW. Published in three monthly parts, this time it's the turn of Spreadsheets, Games and Graphics to face the ultimate test. We've set out to test every piece of software we could lay our hands on, and to give you enough information to decide which program is the one you're looking for.

The selection isn't comprehensive, but the software listed here represents what we think is the best of that currently available. As well as a brief summary of what they do, there are the main Plus and Minus points for each program - Pluses have a ▲ by them, Minuses a ▼.

• SPREADSHEETS •

If a database replaces an address book, then a spreadsheet replaces the back of an old envelope. It is really an electronic piece of paper which allows you to jot down numbers, juggle them around and analyse the cost benefits of a situation. Vital for businesses, spreadsheets can be useful to home users too: if you want a bank loan you will find that showing your bank manager a spreadsheet printout of your living expenses answers a lot of questions!

A typical spreadsheet has a grid of rows and columns. This grid forms a screenful of cells identified by their column and row numbers, e.g. A3, K36 etc. Each cell can contain a simple number, some text to make the page easier to read, or a formula telling the spreadsheet to work out a number using values from elsewhere. The power of spreadsheets is in this last category, formulae. You can make a cell's value depend on the value of cells above it, or to the left of it, and this value is then automatically updated if changes are made to the other cells.

So how do you choose between the various spreadsheets? One difference is sheet size, i.e. the number of cells you are allowed to work with. You'll need a few hundred for home use, and 1000 or more for business use. Another area is the range of formulae that you can use – all spreadsheets allow simple column and row totalling, but with some you can get complex statistical analyses too. As with all software, think very carefully what you will need before choosing.

MINI OFFICE PROFESSIONAL
£29.95 · Database Software · 0625 878888

Mini Office is a suite of five integrated programs – database, word processor, graphics module, comms package, and a very good spreadsheet. Broadly similar to SuperCalc in operation with usual features of auto or manual recalculation, replicating of rows/columns, powerful range of arithmetic functions etc. Printout is a strong point - rows/columns can be put into italic/bold etc, and prints draft, NLQ or even sideways! Can't sort and can't just save data or structure of a spreadsheet, but maximum size of spreadsheet is claimed to be 320k. You can use the data from a spreadsheet in the graphics module directly, though the manual is pretty useless at telling you how to do this.

PLUSES · MINUSES
▲ Good, full-featured easy to use spreadsheet
▲ Prints in draft, NLQ or even sideways
▲ Maximum size of spreadsheet 320k
▲ Can transfer data directly to graphics module
▼ Manual is little more than an index of commands
▼ Working out how to transfer data to graphics module requires a lot of inspired guesswork
▼ 'Save' options not as versatile as SuperCalc

CRACKER TURBO
£49.95 · Software Tech · 0277 220573

A spreadsheet designed with advanced calculating power firmly in mind, including statistical functions. The screen layout is totally defined by the user, and cell value calculations can almost be full programs, e.g DO ... WHILE. It might prove too complex if all you want is simple spreadsheet operations. The screen messages are very helpful though. Turbo is claimed to be faster than Cracker 2 though sometimes isn't noticeably so.

PLUSES · MINUSES
▲ Can cope with very complex formulae

▲ Flexible screen format defined by the user
▲ On-screen prompts are very clear
▲ Graphs/charts can be automatically produced
▼ Documentation is large, but obscure and confusing
▼ You've got to do a lot of work just to get started
▼ Very complex for quick, simple applications
▼ Needs some programming skills to get the most out of it
▼ Free workspace is on the small side (17k) although memory is used efficiently

SCRATCHPAD PLUS
£59.99 · Caxton · 01-251 9494

If you want a traditional spreadsheet, ScratchPad Plus has most of the features you could want and more. Using 'virtual memory' means you can have a huge data area, and the screen can be divided into windows to view different parts at the same time. Many of the commands bear a remarkable similarity to the big business spreadsheet Lotus 1-2-3.

PLUSES · MINUSES
▲ Virtual memory means you can have large spreadsheets
▲ Multiple windows – you can see all parts you want at once
▲ Good control over formatting
▲ Vast range of calculations possible
▼ Documentation sorely needs an index
▼ Screen prompts are cryptic; you need the manual to hand
▼ No provision for automatic execution from files
▼ No graphical output facilities

SUPERCALC 2
£49.95 · Amsoft/Sorcim · 091 567 3395

The best selling spreadsheet, officially endorsed by Amstrad. SuperCalc 2 is broadly similar to ScratchPad Plus, and at least as effective, but it has a smaller workspace and is less flexible about the allowed spreadsheet dimensions. You can store sequences of commands for repetitive calculations.

PLUSES · MINUSES
▲ Excellent manual – sections for beginners and experts.
▲ Can store sequences of commands and run later run from files
▲ "Data Interchanger" allows you to transfer spreadsheet data to other applications
▲ Comprehensive range of calculation functions available
▲ Screen can be split into 2 windows

SPREADSHEETS · GRAPHICS

▼ Spreadsheet is limited by memory size
▼ No graphical output facilities

FIRST CALC
£29.95 · Minerva Systems · 0392 37756

Touted as a quick and simple to use program for the beginner, this is nevertheless quite a powerful spreadsheet, with a large capacity, ability to replicate formulae, export etc. Really it's not vastly more user-friendly than the rest but a good value package all the same.

PLUSES · MINUSES
▲ A lot of program for the money
▲ Good tutorials with demo files
▲ Simple to use but reasonably sophisticated
▼ Not much easier to use than more powerful packages

ESTIMATING & COSTING
£49.95 each · Cornix Software · 0462 682989

Both these programs aim to provide help to small businesses by keeping track of costs. You break down the job/product you are doing into small units and specify the cost of each basic component. The programs then analyse your profit margins and can produce printed quotes to convince customers you are superb value.

PLUSES · MINUSES
▲ Well written manual aimed at businessmen not programmers
▲ Simple and robust to use
▲ Changes in material cost instantly reflected in all quotes
▲ Neat way of doing on-the-spot quotes
▼ Can't add new components to a description after it's set up
▼ Cost of one component can't be dependent on another
▼ Inflexible design of printed quotes might be inconvenient
▼ Generally only suited to smallish businesses

• GRAPHICS •

You can use a graphics package to create and store diagrams and drawings on disc, to be amended, adjusted or printed out at will.

There are three main types of graphics package: art, technical drawing and graph plotting programs. In art packages the emphasis is on designs and pictures, with freehand drawing facilities, a selection of pretty text fonts and a variety of patterns to fill areas with. These are made much more effective and easier to use if you have a mouse.

Technical drawing packages concentrate on shapes, such as squares and polygons, lines and labels. Finally graph plotters will take your data and turn them into bar charts, pie charts and so on. 9512 owners will have to buy a dot matrix printer to do all this, of course.

DR DRAW
£49.95 · Digital Research · 0635 35304

This is a drawing utility, which allows you to compose designs from circles, polygons, lines and a wide variety of shadings and styles of text. It's very cumbersome to use unless you also have a light pen or a mouse, and overall not very friendly. Not recommended unless you're ready for some hard work

PLUSES · MINUSES
▲ When pushed, it can produce very neat diagrams, even on the standard PCW printer
▲ Good, professional manual (although no mention of Amstrad specifics)
▼ You need CP/M expertise to get it installed and going
▼ Painfully slow screen handling
▼ Difficult to use by keyboard alone – you must buy a lightpen or mouse

DR GRAPH
£49.95 · Digital Research · 0635 35304

A rather specialised package, specifically for presenting

POCKET CALCSTAR
£39.95 · Davis Rubin Associates · 0386 841181

A fairly traditional spreadsheet but with a few surprising features. It's not particularly large or fast, but is attractively priced and has all the basic functions. Can form part of an integrated system with the other Pocket products. A safe buy for the first-time user, and the documentation is up to the usual high MicroPro standards.

PLUSES · MINUSES
▲ Good range of mathematical calculation functions.
▲ Good documentation – sections for beginners and reference.
▲ You can preset a course of cells to visit, for form filling.
▲ Can be integrated with other Pocket products, eg ReportStar
▼ Screen size is very small – 10-15 spreadsheet rows,.
▼ No auto-recalculate facility
▼ It's not very fast
▼ You can't type heading text etc. over adjacent columns

MULTIPLAN
£69.99 · MicroSoft/NewStar · 0277 220573

A well established package with all the features you would expect of a reasonable spreadsheet — it just lacks that something extra that recommends some of the newer ones. No support for command reading from files, or for "virtual memory". Adequate, but there are better for the money. And the manual can kill at twenty paces!

PLUSES · MINUSES
▲ Functions easily entered by menu selection
▲ Full range of features and functions
▲ On-screen help text is available as you go
▲ Sheets can be interlinked and data transferred between them
▼ You need a computing degree to understand the manual
▼ No support for automatic execution
▼ Workspace is limited by CP/M memory space
▼ Printer output a bit cumbersome

complex data in graph form. Can produce line graphs, bar charts, piecharts, scatter plots, text, and compositions of any mixture of these. Very flexible, and easily operated by menus, but really needs a graph plotter to do it justice.

PLUSES · MINUSES
▲ Can read data from certain spreadsheet programs (e.g. SuperCalc)
▲ Extensive annotation of your designs and text placing is possible
▲ Good, professional manual (although no mention of Amstrad specifics)
▲ Supports a colour graph plotter as an output device
▼ You need to have some CP/M expertise to get it installed and going
▼ There is no way of joining points by a smoothed curve

LIGHTPEN/ MOUSE ART
£79.95 or £129.95 · Electric Studio · 0462 675666

Ostensibly you are buying a piece of hardware — a light pen, or a mouse, that can be used with many PCW graphics programs, like DR Draw. In practice, its main use is with the software that comes with it, a very good picture drawing package. You can freehand draw, get airbrush effects, create polygons and circles, and move blocks of pixels. Great fun.

PLUSES · MINUSES
▲ Light pen hardware is a simple plug-in module
▲ Can use freehand pen or cursor keys for accuracy
▲ Menu selections are easy to understand
▲ Full range of functions for area filling, shading and spraying
▲ Blocks of pixels can be moved and copied
▼ You would need to know your way around CP/M to use the lightpen itself with other graphics programs
▼ Items on the screen are purely pixels, not distinct elements
▼ No positioning of items by numeric co-ordinates for accuracy.

MASTER PAINT
£19.95 · Database Software · 0625 878888

A WIMP environment graphics package (windows, icons, menus, and pointer) which will run with Kempston, AMX or Electric Studio mice. Usual facilities for drawing curved or straight lines, polygons, boxes, circles and ellipses, and a host

of 'fill' patters. 'Undo' function and eraser facility, plus the ability to zoom in on a part of the picture and make pixel-by-pixel changes.

PLUSES · MINUSES
▲ WIMP environment makes it easy to use
▲ Zoom function lets you fine-tune your pictures
▲ Good range of effects
▲ Undo and erase facilities
▼ Text fonts are boring
▼ Can't move large blocks with the copy function

MASTERSCAN
£69.95 · Database Software · 0625 878888

A device which clips on to your printer head and scans pictures, sending the digitised result to disc. You can then use the pictures in desktop publications or in other graphics packages, such as Master Paint. Very useful for newsletter production but the claims for Master Scan as a low-cost fax machine are grandiose - the quality of scanned text is poor if the text is anything less than headline size.

PLUSES · MINUSES
▲ Simple method of getting good digitised graphics
▲ Suitable for all desktop publishing programs
▲ Contrast control useful
▼ Quality of scanned text is bad – no good for faxes
▼ Problems with illustrations containing lots of grey

POSTAFONT
£9.95 · Independent User Group · 0242 224340

It's easy to ring the changes with the five fonts provided on this poster program because you can have either solid or hollow characters in one of six patterns. Very good value for money but best for the occasional poster producer.

PLUSES · MINUSES
▲ Its really good value for money.
▲ You can freely mix fonts and styles
▼ The print commands are contained in a file which you have to create yourself.
▼ No warning if the poster is too big for the paper.

LIGHTNING BASIC
£19.95 · CP Software · 0993 823496

A very clever add-on to normal Basic which works on three levels. The first contains all the everyday commands, whilst the second and third levels are used for designing icons, characters and sprites. There is something in it for everyone, whether an experienced Basic programmer or a beginner. A useful all round graphics tool

PLUSES · MINUSES
▲ Simple and easy to use
▲ Makes simple Basic programs look really professional
▲ Good fun to use
▼ Documentation can be unclear
▼ Printed output is coarse draft quality
▼ Can only cope with simple graphics

COMPLEMENT FONTS & BORDERS
£12.50 · Dragonfly Designs · N/A

Although it can be used with all the main DTP packages , this latest complement disc was designed to work alongside Stop Press. The 11 fonts supplied on the disc show consistant good design and artistic flair and are easily loaded.

PLUSES · MINUSES
▲ The fonts provide a very professional finish.
▲ It is possible to rotate and reverse elements.
▲ Very user-friendly.
▼ Setting up borders tends to be difficult and time-consuming.
▼ Printed output could be better (but it is still above average).

SIGNWRITER
£49.95 · Wight Scientific · 01 858 2699

Offers the widest range of features of any of the poster printing programs. Signwriter provides a range of 20 fonts, some of them very imaginative. Ideal for the regular poster producer.

PLUSES · MINUSES
▲ You can redesign fonts and design your own symbols.
▲ A wide range of interesting fonts is supplied
▼ Not very user-friendly.
▼ Font design is slow.

STOP PRESS
£49.99 · AMS · 0925 413501

Though touted as a DTP program, Stop Press is an excellent graphics package. Can present data in the form of graphs, pie charts etc., and has the usual range of facilities to draw and fill triangles, boxes and so on plus a very good 'zoom' option which lets you examine the effect of changes in great detail.

Best general buy

PLUSES · MINUSES
▲ Good graph drawing facilities
▲ Can design your own area fill patterns
▲ Good range of clip art, which you can modify if you wish
▲ Can superimpose one image on another
▲ Works with AMX and Kempston mice
▲ Is also a good DTP package
▼ Undoing wrongly placed text is difficult

AYE PLUS
£19.95 · CP Software · 099382 3463

The full title is 'All you ever wanted to know about graphics, the universe and everything on the PCW ... but were afraid to ask PLUS'. Phew. A wide range of little programs to do graphic things on the PCW like smooth scrolling, defining windows, moving sprites around. The programs are written in assembler, with the source code provided if you want to see how to program them for yourself and adapt the routines. Great for programmers.

PLUSES · MINUSES
▲ Wide range of useful functions
▲ Can be used from BASIC, machine code, or other language
▲ The assembler source code is supplied
▲ Inexpensive
▲ Good manual
▲ CP don't mind you using their routines in programs you sell (within reason!)
▼ A bit long-winded to use from BASIC
▼ No easy way of loading just the routines you want

VIDEO DIGITISER
£99.95 · Electric Studio · 0462 675666

A black box which plugs onto the expansion port at the back of the PCW, into which you put a video camera or video recorder. It will then 'digitise' the picture it receives and display it on the screen. The result can be used as a normal graphic in any of the desktop publishing packages and can be edited, cut, pasted etc.

PLUSES · MINUSES
▲ Automatically picks a good contrast level for the display
▲ Can store pictures for Light Pen or Mouse to work on later
▲ Can print out on a full A4 page
▼ Can't take simple TV signals – video only
▼ When used in a desktop publication, won't be as good as screened photographs

GRAFPAD WITH POWERCAD
£149.50 · Grafsales · 0923 43942

A system allowing both freehand and technical design via a special pen. This works from a 'digitising tablet' which takes over the functions of the keyboard and fits into the expansion port at the back of the PCW. Wide range of features including object move, ability to define symbols for future use and sophisticated zoom feature for fine adjustments. Its potential is enormous though at the price may be limited to specialist drawing office applications.

PLUSES · MINUSES
▲ Combines best of freehand and technical drawing facilities
▲ Zoom feature allows drawing in of fine details
▲ Accurate
▲ Sophisticated, professional package
▼ Expensive – not really meant for the private user

Easy to use

VIDI PCW
£99.95 · Rombo Productions · 0506 39046

A very similar package to the Electric Studio digitiser; not much to choose between the two. Rombo's works with the Fleet Street Editor, Electric Studio's with Newsdesk International.

PLUSES · MINUSES
▲ Text can be inserted from within the program
▲ 15 levels of shading
▲ Can print images to screen in defined order and time apart – great for presentations
▼ Unhelpful manual

• GAMES •

ACADEMY (TAU CETI II)
£19.95 · CRL (01 533 2918) · 8000s only

The sequel to Tau Ceti. To qualify as an advanced skimmer pilot, you must complete successfully 20 missions. Blast enemy craft with your personally designed skimmer.

GRAPHICS	4/5	ADDICTIVENESS	5/5
LASTING APPEAL	4/5	VALUE VERDICT	5/5

BACKGAMMON
£15.95 · CP Software (099382 3463) · All PCWs

A fairly good implementation of the gambling board-game. Playing speed is easily alterable and is totally unrelated to the games level of skill control.

RANGE OF FEATURES	4/5	STRENGTH OF PLAY	3/5
GRAPHICS	4/5	DOCUMENTATION	3/5

BATMAN
£14.95 · Ocean (061-832 6633) · 8000s only

3-D animated graphics as you guide Batman around Gotham City, looking for hidden parts of the Batcraft. Good range of hazards, and even a tune!

GRAPHICS	5/5	ADDICTIVENESS	5/5
LASTING APPEAL	4/5	VALUE VERDICT	5/5

BLACKSTAR
£14.95 · CRL (01-533 2918) · 8000s only

A traditional text adventure with large playing area. You explore Castle Blackstar and its mysterious caverns in search of a power orb.

ATMOSPHERE	4/5	INTERACTION	2/5
CHALLENGE	4/5	VALUE VERDICT	4/5

BOUNDER
£13.95 · Gremlin (0742 753423) · 8000s only

A graphics bouncing-ball game. You have to direct the ball over a treacherous network of squares & hexagons. Persevere – or use the cheat mode!

GRAPHICS	4/5	ADDICTIVENESS	3/5
LASTING APPEAL	3/5	VALUE VERDICT	4/5

BRIAN CLOUGH'S FORTUNES
£17.95 · CDS (0302 21134) · All PCWs

A cross between Monopoly and Football Manager, combining board and PCW. Go for league and cup success – but keep the bank manager happy too!

GRAPHICS	2/5	ADDICTIVENESS	4/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

BRIDGE PLAYER 2000
£19.95 · CP Software (099382 3463) · All PCWs

A few of the bids it makes seem a little strange, but as bridge programs on computers go this is pretty good. Claims not to cheat, even though it deals!

GRAPHICS	3/5	STRENGTH OF PLAY	3/5
LASTING APPEAL	4/5	VALUE VERDICT	3/5

CLOCK CHESS 88
£15.95 · CP Software (0993 823643) · All PCWs

One of the better PCW chess programs. You can alter the level of play by specifying a time limit. Capable of very

strong play and the 3D graphics are excellent.

GRAPHICS	3/5	STRENGTH OF PLAY	5/5
RANGE OF FEATURES	5/5	VALUE VERDICT	5/5

COLOSSUS CHESS 4.0
£15.95 · CDS Software (0302 21134) · All PCWs

A very strong chess game which manages to use time which you spend thinking to plan its strategy. Bags of features, including blindfold games.

GRAPHICS	3/5	STRENGTH OF PLAY	3/5
LASTING APPEAL	4/5	VALUE VERDICT	3/5

CYRUS II CHESS
£15.95 · Amsoft (0277 230222) · All PCWs

Chess game with a stunningly detailed 3-D display. The play is quite strong, with several handy features like allowing you to take back a move.

GRAPHICS	5/5	STRENGTH OF PLAY	3/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

DRAUGHTS
£15.95 · CP Software (0993 82 3463) · All PCWs

A merciless opponent, this game is capable of very strong play. The playing board is shown in 3D perspective, but there is no clock to limit time on moves. You can set level of difficulty.

GRAPHICS	4/5	STRENGTH OF PLAY	5/5
RANGE OF FEATURES	3/5	VALUE VERDICT	4/5

FAIRLIGHT
£14.95 · The Edge (01-831 1801) · All PCWs

Fine 3-D graphic adventure with similar screen display to Batman. You explore a castle prison, battle with numerous enemies and solve puzzles.

GRAPHICS	4/5	ADDICTIVENESS	3/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

GNOME RANGER
£14.95 · Level 9 (0344 487597) · All PCWs

You follow the adventures of Ingrid Bottomlow, the intrepid gnoma, through a fairy tale landscape full of compelling puzzles. Humorous and rather quaint.
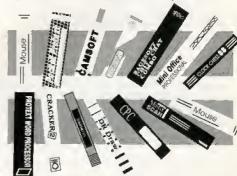
ATMOSPHERE	3/5	INTERACTION	3/5
CHALLENGE	3/5	VALUE VERDICT	4/5

GUILD OF THIEVES
£24.95 · Rainbird (01-240 8838) · All PCWs

To join the select Guild of Thieves in Kerovnia, you first have to

GAMES

show your worth by fleecing an island of all its treasures. An excellent adventure!

| ATMOSPHERE | 5/5 | INTERACTION | 4/5 |
| CHALLENGE | 4/5 | VALUE VERDICT | 5/5 |

HEAD COACH
£15.95 • Coda (01-789 9551) • All PCWs

You coach an American Football team, picking players and deciding tactics against real NFL teams and players. Incredibly detailed simulation – a must for NFL fans!

| ATMOSPHERE | 4/5 | INTERACTION | 5/5 |
| CHALLENGE | 4/5 | VALUE VERDICT | 4/5 |

HEAD OVER HEELS
£14.95 • Ocean (061 832 6633) • 8000s only

A superlative, compulsive 3D arcade adventure where you control either Head or Heels. Escape from Castle Blacktooth and free the Empire's enslaved planets.

| GRAPHICS | 5/5 | ADDICTIVENESS | 5/5 |
| LASTING APPEAL | 5/5 | VALUE VERDICT | 5/5 |

HITCH-HIKERS' GUIDE
£24.99 • Activision (01-431 1101/2992) • All PCWs

In many people's minds, the best adventure program ever written. Based on Douglas Adams' series, it is ingenious, hilarious and mind-boggling. A must!

| ATMOSPHERE | 5/5 | INTERACTION | 5/5 |
| CHALLENGE | 5/5 | VALUE VERDICT | 5/5 |

JINXSTER
£24.95 • Rainbird (01 631 5373) • All PCWs

This one's all about saving the civilisation of a place called Aquitania from the wicked Green Witches. All you have to do is find and reassemble a magic bracelet and redirect its errant powers. A very atmospheric game.

| ATMOSPHERE | 5/5 | CHALLENGE | 5/5 |
| INTERACTION | 4/5 | VALUE VERDICT | 4/5 |

KNIGHT ORC
£19.95 • Level 9 (01-631 5373) • All PCWs

You are an orc in this typical Level 9 adventure by the name of Gridleguts. An addictive game with lots of action, plenty to explore and mind-bending puzzles.

| ATMOSPHERE | 5/5 | INTERACTION | 5/5 |
| CHALLENGE | 5/5 | VALUE VERDICT | 5/5 |

LEATHER GODDESSES OF PHOBOS
£24.95 • Activision (01-431 1101/2992) • All PCWs

Lascivious, licentious and lewd – definitely not for feminists! An excellent adventure game, spoofing both sci-fi and Soho. With 3D scratch'n'sniff card!

| ATMOSPHERE | 5/5 | INTERACTION | 5/5 |
| CHALLENGE | 5/5 | VALUE VERDICT | 5/5 |

LORD OF THE RINGS
£19.95 • Melbourne Ho. (01-377 8411) • All PCWs

Excellent adaptation of the Tolkien classic. You take the role of

Frodo or one of his group, and rove through Middle Earth meeting balrogs, orcs, wargs and all.

| ATMOSPHERE | 5/5 | INTERACTION | 5/5 |
| CHALLENGE | 5/5 | VALUE VERDICT | 5/5 |

LURKING HORROR
£24.95 • Activision (01-431 1101/2992) • All PCWs

Something nasty is lurking down in the bowels of the George Edwards Institute of Technology – find it before it finds you! Another great game from Infocom.

| ATMOSPHERE | 4/5 | INTERACTION | 4/5 |
| CHALLENGE | 3/5 | VALUE VERDICT | 4/5 |

MATCHDAY II
£14.95 • Ocean (061 832 6633) • All PCWs

Excellent football simulation game with superb graphics. Tackling and jumping, volleying and heading etc. Play against the computer or against a friend.

| GRAPHICS | 5/5 | ADDICTIVENESS | 5/5 |
| LASTING APPEAL | 5/5 | VALUEVERDICT | 5/5 |

MINDFIGHTER
£24.99 • Abstract Concepts/Activision (01 431 1101) • All PCWs

An adventure game set in post-holocaust Southampton. Hero is a psychic 11 year old boy who can change himself into all different kinds of animals, and who has accidentally projected himself into the future. It's up to him to change the course of events and prevent nuclear war.

| ATMOSPHERE | 5/5 | INTERACTION | 3/5 |
| CHALLENGE | 5/5 | VALUE VERDICT | 4/5 |

THE PAWN
£24.95 • Rainbird (01-240 8838) • All PCWs

An excellent adventure with dozens of superb screen illustrations, zany characters and a host of baffling puzzles. Will keep you entranced for hours.

| ATMOSPHERE | 5/5 | INTERACTION | 5/5 |
| CHALLENGE | 5/5 | VALUE VERDICT | 5/5 |

SILICON DREAMS
£19.95 • Rainbird (01-240 8838) • All PCWs

A trilogy of intriguing adventure games. You are secret agent Kim Kimberley saving Snowball 9 from almost certain doom! With a humorous novella.

| ATMOSPHERE | 4/5 | INTERACTION | 4/5 |
| CHALLENGE | 4/5 | VALUE VERDICT | 4/5 |

SCRABBLE
£19.95 • Virgin Leisure (01-727 8070) • All PCWs

Excellent implementation of the famous game. 1 to 4 people can play the computer, which knows a fair few obscure words. Good graphical display. Eight levels of difficulty, and the top level scores 350 or so regularly, so you have to be on top form!

| GRAPHICS | 4/5 | ADDICTIVENESS | 3/5 |
| LASTING APPEAL | 4/5 | VALUE VERDICT | 4/5 |

SORCEROR
£24.95 • Activision (01-431 1101/2992) • All PCWs

Enter the world of necromancy and sorcery courtesy of another intriguing and mind bending adventure game from Infocom. You have to find out the correct spells which will locate your missing master, Belboz.

| ATMOSPHERE | 5/5 | INTERACTION | 4/5 |
| CHALLENGE | 4/5 | VALUE VERDICT | 4/5 |

STARGLIDER
£24.95 • Rainbird (01-240 8838) • All PCWs

A sophisticated shoot-'em-up with 3D vector graphics and a dose of strategy too. Your task is to save Novenia, helped by a complex playing guide.

| GRAPHICS | 5/5 | ADDICTIVENESS | 4/5 |
| LASTING APPEAL | 4/5 | VALUE VERDICT | 5/5 |

STATIONFALL
£24.95 • Activision (01-431 1101/2992) • All PCWs

Sequel to Planetfall. You explore a space station with your chums Floyd and the philosophical robot Plato. Usual Infocom standards – a great sci-fi adventure, a mix of 2001 and Star Trek!

| ATMOSPHERE | 5/5 | INTERACTION | 4/5 |
| CHALLENGE | 5/5 | VALUE VERDICT | 4/5 |

STEVE DAVIS SNOOKER
£14.95 • CDS (0302 21134) • All PCWs

Surprisingly realistic simulation of both pool and snooker games – not as easy as it looks either!. Foul shots, breaks etc. and allows for spin, side, strength of shot. Good value, despite all the balls being greens!

| GRAPHICS | 2/5 | ADDICTIVENESS | 3/5 |
| LASTING APPEAL | 3/5 | VALUE VERDICT | 3/5 |

STRIKE FORCE HARRIER
£19.95 • Mirrorsoft (01-377 4645) • All PCWs

A combat simulation of a Hawker Harrier, designed in conjunction with British Aerospace. Very detailed and realistic but you'll need to put in a few hours with the manual to get off the ground.

| GRAPHICS | 4/5 | ADDICTIVENESS | 3/5 |
| LASTING APPEAL | 3/5 | VALUE VERDICT | 3/5 |

TIME AND MAGIK
£14.95 • Mandarin Software (0625 879920)

An excellent trilogy of time travel adventure which can be played in any order. Your task is to protect the history of the world from the destructive timelords – another very atmospheric game.

| ATMOSPHERE | 5/5 | INTERACTION | 4/5 |
| CHALLENGE | 5/5 | VALUE VERDICT | 5/5 |

TETRIS
£19.99 • Mirrorsoft (01-377 4837) • All PCWs

You fit together bricks of various shapes that drop out of the sky at the bottom of the screen. The better the fit, the higher your score. One of those ridiculously simple ideas which is very addictive!

| GRAPHICS | 3/5 | ADDICTIVENESS | 5/5 |
| LASTING APPEAL | 4/5 | VALUE VERDICT | 5/5 |

TOMAHAWK
£19.95 • Digital Int. (0276 684959) • 8000s only

A sophisticated Apache helicopter flight simulator. Impressive cockpit view graphics as you engage in combat missions – can be used with a joystick too.

| GRAPHICS | 4/5 | ADDICTIVENESS | 3/5 |
| LASTING APPEAL | 4/5 | VALUE VERDICT | 4/5 |

NEXT MONTH

The guide continues next month with the categories of WORDPROCESSORS, ACCOUNTS/ PAYROLL, UTILITY and DTP. The month after that will cover DATA-BASES, EDUCATION and COMM-UNICATIONS software, and the month after that it's back to this month's topics.

Our intention is to keep publishing the three parts of the guide in rotation, updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available at £1.75 each.

Meanwhile, if you are aware of any significant omissions or errors in the File as published, please let us know. We intend to maintain it as THE authoritative guide to PCW software.

ORDER FORM No. 25

You will notice that this month we have introduced an Order Code alongside each item. This is because we are computerising the Mail Order section of 8000 Plus. Please list the items you require in the box below. All goods are sent by first class post, normally within five days of order. But please allow 28 days in case of temporary shortage.

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BARGAIN

LOCOSCRIPT 2 & AMSTRAD PCW'S
£11.95 · Locomotive Software
Published by Sigma Press, this John Hughes book is a friendly, down-to-earth and readable guide to LocoScript 2. Whether you're an 8256 or 8512 user converting from LocoScript 1, or a brand new 9512 owner, this will tell you all you need to know. It covers the basics of layouts and tabs, LocoMail and LocoSpell, alternative printers and even gives you an introduction to the world of CP/M. If you find the Amstrad manual a bit daunting, then this is for you!
Order code 8036

FREE
Copy of Locoscript II wallchart included with this book

8000 BACK
PLUS ISSUES

We have limited quantities of the back issues listed below. The prices include a nominal 25p postage. All issues contain excellent TipOff sections and a selection of BASIC listings, plus the other regulars. Don't miss the chance to expand your collection.

Issues 1-6 SOLD OUT!

Issue 7 £1.50 Spreadsheets special. LocoScript troubleshooting. Reviews of Cavalier accounts, Personal Tax Planner, Stockmarket packages, Adrian Mole. **Order code 8015**

Issues 8 & 9 SOLD OUT!

Issue 10 £1.75 Graphics packages compared. £10 database. More on LocoMail. LocoScript templates. Teach yourself Logo. **Order code 8018**

Issue 11 £1.75 How to recover lost disc data. Installing a second drive. The SUBMIT command. Reviews of Desktop Publisher, Red Boxes, Leaderboard. **Order code 8019**

BUYS!!

DESKTOP PUBLISHING WITH THE AMSTRAD PCW
Only £8.50!

Your PCW is a powerful desktop publishing tool - with it you can print everything from newsletters to posters. With the right software for your needs the options open up your computer as a handy way of earning your living.

What Mike Milan does in this book is to look at the possibilities. He leaves the actual choice of software up to you (we'd recommend Stop Press), and discusses page layout, reproduction methods, printers, fonts, trim marks, photo layouts - all in a heartening prose. An essential companion for DTPers.
Order Code 8035.

PICKS OF THE MONTH
Save £££'S on these top PCW entertainment programs!

HEAD OVER HEELS
Only £9.95! (RRP £14.95)
The incredibly-animated program from Ocean in which you control TWO separate characters, using their different abilities to solve some mind-bending puzzles. Huge playing area and probably the best graphics on the PCW. Plus totally absorbing gameplay.
Order code 8007

SCRABBLE
Only £12.95! (RRP £19.95)
This will appeal to anyone who enjoys playing with words. A super enhanced dictionary and full board displayed on-screen means you get the full feel of this classic game. Play against friends or take the computer on. Can you beat your PCW at word processing?
Order code 8008

9512 software:
The following titles do not run on the 9512:
Tau Ceti;
Head Over Heels;
Tetris

TETRIS
Only £14.99 (RRP £19.99)
The first Russian game to reach the West has won rave reviews everywhere. All you have to do is guide blocks down the screen into complete rows on the bottom – but be warned it has a 'Just one more go' rating of 100 per cent!
Order Code 8027

TAU CETI
Only £9.95 (RRP £19.95)
This arcade adventure from CRL creates its own cosmology and combines the best features of shoot-'em-ups with intelligent gameplay. Set in 2140, on a planet whose defence systems are going wildly wrong, you must sort the situation out before possible catastrophe.

A classic that breaks down the distinction between arcade and adventure gaming.
Order Code 8012

POST SCRIPT

An assemblage of aspersions, assuagements and asyndeton aspired to by an assiduous Ed.

PostScript: the pages where you can air your views, graces and dirty linen. Share your experiences and opinions about PCWs, and more or less anything else, with a waiting world! Subjects under the hammer this month include TPA, LocoScript 3, feminism and curry.

Send your views on issues germane to the PCW to: *PostScript, 4 Queen St, Bath, BA1 1EJ.*

Question time

Can I suggest some areas that I feel could do with greater explanation through the pages of 8000 Plus (looking back over the last 6 months or so others too seem to be as hazy as myself).

First, could you give a better explanation of the real significance of Transit Program Area (TPA) when running bought software or developing your own.

Also (for those of us having an 8256) what would we gain doing the memory upgrade? (Yes, I know more memory, 512k instead of 256k – what is the value to popular programs such as LocoScript, Mini Office etc?)

These questions were really brought to a head a few weeks ago while I was using a Mini Office spreadsheet to set up a stock control of some 200 items and prices. Having just about squeezed in all the text and calculation formula cells, I put in some actual stock numbers and attempted to run calculate. Although starting the process after about a minute I was presented with a bleep and a message just saying "Memory Full".

1. Has the problem occured because of the limitation of the Transient Program Area? If so, is the complexity of calculation or size of spreadsheet the dominant factor?

2. Would doing the memory upgrade solve the problem? (I note your software guide refers to Mini Office spreadsheets up to 320K presumably on an 8512)

Is this referring to the storage of the finished sheet only or would I gain greater calculation availability by upgrading my 8256's memory?

The aborted spreadsheet when saved took up 75k of space by the way.
Timothy Owen
Castleblaney

8000 PLUS *The answers to the last two questions are 1. No and 2. Yes.*
In an office, there's a trade-off between having lots of space for yourself to work in and lots of space to store information. The same is true of your PCW's memory – some bits are reserved for programs to occupy, some for the data they work with.

The Transient Program Area is the space any program you run on your PCW has to sit in. You have 61k of space on all PCWs, regardless of model number or memory size. For example, when BASIC sits in your PCW it only leaves 31k of space to run your programs, and there's nothing you can do to increase this.

It follows that no program bigger than 61k can run on a PCW. Large programs get round this by splitting up into bits and having 'overlay' files – for example, SC2.OVL on SuperCalc 2. They are called up when needed. If you're writing a program which is very big (in BASIC or any other language) you'll have to do the same and 'chain' from one section of the program to another.

Mini Office uses the memory to store the spreadsheet data and the only limit you have on the size of your sheet is the size of your memory. 320k is the space you have from a 512k memory (the other bits of the memory have CP/M, the Mini Office program etc. sitting in them so you can't store data in all 512k) and on a 256k memory simple arithmetic predicts you'd get somewhere over 60k to play with.

Some benefits from an expanded memory are: a) huge spreadsheets in Mini Office (320k instead of 70k) b) ability to run large LocoSpell dictionary in memory instead of small LocoSpell dictionary c) ability to copy lots of files to the memory (when transferring discfuls of data from an A drive to an A drive on a ▶

Currying favour

Thank you for your review of PS-Headings in the September issue of 8000 Plus. I thought it very fair, if needing a few superlatives to spice it up.

Seriously though (as they say) perhaps I could just set the record straight about precisely how many Indian meals can be consumed, calls of nature answered, or beverages brewed, while the program is 'processing' one's heading text?

A fairly typical heading, let's say the title of the next chapter of one's novel (what else?), which

13. Vindaloo and Back

one decides is to be "13 VINDALOO AND BACK", comes in at just 3 minutes 50 seconds. Now this is undeniably time to make one cup of coffee. Indeed the manual recommends that one does just that. But to say 'a cup (or twelve)' is mischievous. And curries, of any variety, are clearly right out.

Even more seriously, once thus processed into data files, one's heading can then be printed

out as often as desired without further resort to the kettle.

Finally, processing time is a function of font size and heading length but not, as your reviewer suggests, the number of variables set. These variables (controlling centering, underlining, print quality and so on) are simply inserted in the text, with good old >sv, before printing.
Jonathan Baylis
London

"INVALUABLE, THESE PULL-DOWN MENUS..."

POSTSCRIPT

9512 or 8256, or a B drive to a B drive on an 8512) d) alleviation of problems scrolling backwards in long LocoScript documents (when doing this a copy of the file is created in the memory, causing obvious problems if you have a small memory and large document) e) ability to copy large programs to the memory and run them from there for speed (for example, you can copy Prospell and your Prospell dictionary to the memory and spell check in there. Just as it's quicker for you if you remember your friend's phone number rather than looking it up in a phone book, it's much faster than doing it with the dictionary on the A drive because accessing the memory is done much quicker than accessing a drive)

It's not the size

On page 7 of the current issue surely there's an error in the report 'PC Locoscript rumours grow'? The PPC surely uses 3½ inch discs in its disc drive(s) not 5¼ as your report states?

When I read this report, I was sure I'd read in last month's issue a similar statement that the PPC used 5¼ inch discs, and thought I remembered deciding not to write to you because just about everybody would be writing to put this statement right! But now I can't find any such statement in last month's issue! Maybe I'm getting confused with the reports about the possiblity of a portable PCW (running on 3 inch discs) -- now there's a really good idea!

I expect just everybody will be writing this month about 5¼ inch discs on the PPC. Never mind!
Revd D Atkinson
Exeter

Women

No doubt the article entitled "Women" was purposely sexist in order to draw militant women Amstraders out of the Woodwork. To start with, apart from my husband who bought his own Amstrad after he had used my 8512, I was not aware that there were any other men around with PCWs. I came across countless numbers of women who are either writers, or researchers, in quite a range of academic and professional realms all of whom have PCWs. Whenever I go to a university or polytechnic conference, I find oodles of other women who have PCWs. Indeed, nowadays one does not actually read other people's academic papers, until one has first scrutinised the type face and worked out which edition of LocoScript and PCW it was done on; and if it's not done on Amstrad, one doesn't bother to read it. None

of these women to my knowledge have any prior experience of being secretaries or typists, indeed very few academic or professional women come from such a backgound (but good for them if they have, and have beaten the class/gender system). Indeed I would imagine that very few men PCW users were originally typists either.

Having spent the last two months typing 83,334 words for my research thesis, and having bought countless discs, ribbons, programs, paper and other fripperies for my Amstrad, and having read all your magazines, I feel that my efforts and loyalty are rendered invisible by your comments. I think you would find if you did a survey that a least 50% of users are women, and that we are keeping many of the businesses that advertise in your

columns out of the red, by ordering such supplies for our Amstrads, in spite of the fact that most advertisements, articles and cartoons are obviously aimed at a male audience.

By the way I found the Thingi quite useless and the clip broke not long after I had it, but the strip of plastic is useful for the cat to drape its tail around to keep it from the screen whilst I type; for as you no doubt know all female Amstaders have a cat sleeping on top of the machine, where it is warm, and to keep them company while we work. The atmosphere is much more homely than the war machine image that the PCWs take on when men play their nasty silly alien splattering games on their long suffering Amstrads.

You will also be surprised at how computerate even women

users are before they purchase an Amstrad. I started off by studying on the mainframe several years ago, and the PCW was not my first personal computer. I was not attracted to it, because "it was like a typewriter", indeed I could not type, as it could be seen as a negative attribute to say that you could type, and being a typist was seen as a fate worse than death (although typists are really very clever). Nowadays of course the same activity is called 'acquiring keyboard skills' and men do it too, so it is safer to learn 'to type'.
Clara H Greed
Bristol
PS PCW stands for Perfect for Clever Women.

Cherchez la femme

Don't worry, no one could possibly mistake you for a closet feminist! Your patronising assumption that women have bought the Amstrad PCW because they found real computers threatening!

The real fact is that the PCW is cheap. Women were too poor to buy their own machine until the PCW came along.

Have you told your advertisers that you have women readers? Because I notice the ad for "Joyce" with the big boobs has gone – also that printer ribbon ad where the female secretary was throwing ribbons out the window, and the male boss saw his money being wasted. Both made sure I never bought those brands.
I think you should capitalise on your women readership further, not just in reader-gender assumptions, but by getting a female member of staff who can recognise and edit out any offensive sexist remarks and advertisements.

You don't have to change anything else: we recognise that your magazine has no rival for practical, well written information. But no programs for printing out knitting patterns, thanks. Removal of offensive remarks would perfect the magazine – for women!
Henrietta Cubitt
Cambridge

8000 PLUS Ho, hum. It seems you can't win. Write an editorial saying how great it is that the PCW has a lot of female users, unlike other machines, speculate on the reason as being because they tend to do sensible things like use them as word processors instead of play Space Invaders, and all you get is complaints. Well, a couple of them.

Henrietta's letter had several inconsistencies. First, I said 'maybe... many women' which is different from the 'all women' you claim. Second, far from being a 'patronising assumption' it is a
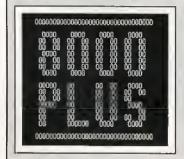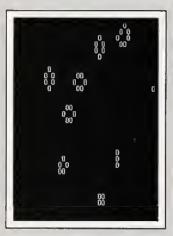
Mail strike

When examining the hidden files on my LocoScript start-of-day disc I noticed a file with file-type .COM called MAIL232. As it had this file-type I thought perhaps the file should be used from CP/M so loaded up CP/M and typed MAIL232 but all I got was a screen setup and a non-responding computer. Could you please tell me why this file is needed and what purpose it is used for? I have version 1.2 of LocoScript 1.
Paul Cane
Guildford

8000 PLUS MAIL232 is a communications program, ie. if you have a modem and an interface, you can send text files by a cable or phone link across to someone else's computer. It's not as sophisticated as, say, the Mini Office comms program so you'd probably use that if you wanted to get into communications.

The most interesting function of MAIL232 is a game hidden inside it. Called 'Life' it's a computer simulation of the breeding patterns of bacteria or algae. The rules for breeding are simple: any bacterium with two or three neighbours stays alive to the next generation. If it has less than two

neighbours, it dies of loneliness, and if it has more than three it dies of overcrowding. In any empty space with exactly three neighbours a new bacterium is born for the next generation.

To 'play' life, you set up an initial arrangement of bacteria then sit back and watch the generations breed. The object is to find out which starting patterns survive – some fizzle out after a few generations, some end up with lovely repeating patterns.

Start up CP/M and at the A> prompt type MAIL232.COM (first insert your LocoScript disc on an 8256 or 8512). Wait for the screen to clear, then press [f3]. Move the cursor down to the last option 'Transfer as ASCII' then press [EXTRA]p.

The screen goes blank except for a cursor. Here's where you set up the bacteria pattern. Use the arrow keys to move the cursor and press [RETURN] whenever you want to place a bacterium there. Another [RETURN] deletes a bacteria. Once ready, press [SPACE] and watch the generations roll endlessly by.

factual and relevant statement, based on the empirical evidence of the vast numbers of letters and phone calls we get, as opposed to your absurd generalisation 'women were too poor to buy their own machine'.

Third, you pick out one statement as sexist and anti-female, when the general tone of the editorial was clearly (I hope) one supporting the very viewpoint you yourself have. Why do you have to argue with everything?

Fourth, it's not up to me to tell advertisers how to illustrate their ads, just as any advertisers who try to influence the editorial content of 8000 Plus are told where to go.

Fifth, it worries me that you order us to get a woman to root out sexist remarks. Why can't a man do it? Haven't you ever heard of the Equal Opportunities Act? You're asking us to do something illegal as well as immoral!

Seriously, I'm disappointed you're so keen to take offence whenever possible, when I'm on your side.

Check point

I thought Mr P Crane's letter in your August edition had saved my sanity. I too had realised that the Basic Checker program didn't fully check, and being a mere 'key puncher' had been waiting patiently for you to print a correction.

However, one month on and the original program is reprinted on the Listings page and Mr Crane's comments have still not been acknowledged.

Mr Wilkins' concept is brilliant, deserving all the credit it receives in your pages and if 100% correct would be a boom, but it's wrong, so why not correct it, publish the listings with the different checksums and say thank you very much to Mr Crane.

**T Birchall
Northampton**

8000 PLUS Our listings editor decided against publishing the modified version because it would mean the new checksums would not correspond with checksums produced by people with the older version. However, if there's enough demand for the amended checker (ie. more than a handful of letters) we'd be happy to run the Crane Special.

Class of Z88

I am writing a large book using "Superwriter" on my expanded PCW 8256. For research note-taking away from home I use a lap-top Cambridge Z88. When I get home in the evening I transfer everything to the PCW for future working-up.

Shortly I shall be going away on a protracted tour for further research, and obviously the Z88

will run out of memory long before I get home again. If I acquire appropriate modems and comms software for the two computers, will I be able to transfer data directly through the telephone from my Z88 to the PCW at home via Microlink for a Mailbox service? The literature is rather ambiguous.

May I suggest that you do a feature on the Z88 or even introduce a small Z88 corner? It is a remarkably useful adjunct to the PCW for all sorts of purposes.

**E A Johnston
Seaford**

8000 PLUS Shouldn't be any problem in principle. If you have a mailbox you can send text files to it via the Z88 plus modem plus phone when you're out in the field; when you get home you can log on to your mailbox with your PCW plus modem, get your text back and insert into a LocoScript or Protext document. There might be hassles with line breaks etc. depending on the communications software you have for the Z88.

We're starting a Z88 series shortly in response to several requests.

Key bored

The PCW'S keyboard, being custom-built for Locoscript, works wonderfully well for that wordprocessor, but less so for CP/M resident ones.

Presumably, it is possible to use SETKEYS.COM to reconfigure the keyboard so that the familiar [EOL], [DOC], [PAGE] etc keys produce similar effects in Wordstar/Protext/Mini-Office. I have to ask — if it was that easy, why don't the software publishers write the appropriate reconfiguration files?

**Arthur Wardell
Halifax**

8000 PLUS You're right, it is that easy. If a word processor manufacturer requires you to move to the end of a page by typing [SHIFT]-backslash-^-[ALT]Q> instead of using the [PAGE] key there, it's sheer laziness. Key definition from within a program is simple. All the word processors you mention set their own key definitions and ignore SETKEYS totally.

Happily, the [EOL], [DOC] and [PAGE] etc. keys all work as the LocoScript user would expect in Protext, almost so in Mini Office, but less so or not at all in WordStar.

Printers

I own a PCW 8256 (with original printer) and am now finding the printer unbearably slow in NLQ, and noisy — my work involves printing very long documents.

I would like to replace it with a new dot matrix printer of similar or higher quality of print, faster, less

noisy, and compatible with my 8256 (using LocoScript 2).

Could you suggest any that would not be too expensive (ie under £300)? Would I need an interface to operate it?

**Martine Garbacz
Bath**

8000 PLUS What you want is a 24-pin printer. Because of the extra number of pins these don't need to do two passes to print a line of NLQ as your built-in printer does. You'll also need an RS232 interface.

Now that Locomotive sell printer drivers for 24 pin printers, you'll be able to use the Amstrad LQ3500 ,LQ5000, the Epson LQ500 or the NEC P6 Plus. They start at around £300 – scour the ads in this issue for the best price. The last two are a bit faster than the Amstrads and don't revert to two pass printing as the Amstrads apparently tend to do sometimes.

LocoScript 3?

In their seemingly constant upgrading of the LocoScript system, Locomotive have proved both their ingenuity and their commitment to listening to the needs of their users. What this suggests is that at some point an improved LocoScript 3 will arrive that will in part be a result of user's responses to the current system.

Naturally there might be technical objections to some suggestions of which mere users

are unaware. No doubt, many of these would involve the amount of memory available in the hardware. But within these constraints, it would at the very least be interesting to see what the most popular or ingenious improvements suggested by your readers are. In addition, your comments on the competition might show many readers that the Locoscript system can already handle what they now need! Here are my three entries:-

1. The Find and Exchange function should be made more flexible by allowing the inclusion of Word Processor codes. Thus it would be possible for example to exchange (+Italic) and {-Italic} for (+Wordul) and (-Wordul). This particular example would be useful for swapping documents between different sorts of printer. But clearly there would be many other uses. (Isn't something similar happening in the Layout Exchange and Layout Replacement functions?)

It would also be very useful if more than one item could be exchanged as the function works through a document.
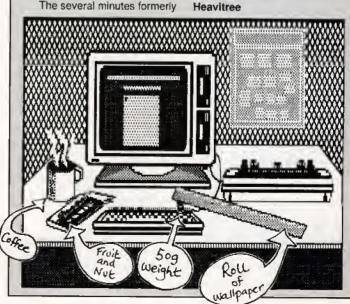
2. If CP/M can copy across all the documents in a group, could not Locoscript be made to do this too? At the moment you can only move, erase or copy one file at a time; multiple file erasing, copying or moving would make many disc housekeeping tasks an

Taking the DTP

I am sure that users of Database's DTP program will be relieved to see revealed the items they always suspected were missing from the pack. In order to delete all text from a text box, a 50g weight and a roll of wallpaper are required to hold down the DEL key.

The several minutes formerly spent with a paralysed forefinger on the key can now usefully be employed drinking the coffee and eating the bar of chocolate. Database Software Ltd have not yet admitted they refused to enclose the two items due to increased postage costs.

**Mrs P A Trillin
Heavitree**

awful lot easier.

3. Addition of coded functions (+UpperCase) and (+LowerCase) to turn all lower case text after the code in upper case or vice-versa.
Ian Ground
Newcastle-Upon-Tyne

8000 PLUS It's a bit presumptuous of us all to be looking forward to LocoScript 3 though it may well happen one day. Locomotive's Howard Fisher said they were aware of the demand for the extra functions you mention, but at the moment it's a question of priorities: other things – like extending the range of printers supported by LocoScript 2, adding to the number of foreign languages handled and so on – are taking up their time and effort. Exchange of printer codes, multiple copying etc. would be possible but would necessitate major rewriting of the program. While he didn't rule them out, Howard thought it unlikely that such a large revision of LocoScript could be done in the near future because of the sheer time involved.

To Locomotive – please, please consider putting a word counter into the main program! Yes, we know you can use LocoSpell, but it takes ages and you often need to count an article you're writing to a certain length every few minutes. We use Protext for writing these articles on because you can get a fast count – eight

seconds for all of PostScript (compare that with LocoSpell...) Come on, a lot of PCW users write to specific lengths and a fast word counter is absolutely vital!

Mea culpa

It would be helpful for myself and presumably other subscribers and readers of your magazine if you could provide some more information about the program Professional Adventure Writer, which was reviewed in July issue, but without any indication of the producers/distributors, nor of the price of the package.
E L Dondero
London

8000 PLUS We originally reviewed it in February, and the July article was a follow-up tutorial which inexplicably missed out the availability details. Sorry about that! Professional Adventure Writer is available from Gilsoft (0446 732765) for £27.95

C'est la vie

Though I am aware that the 9512 is capable of reproducing French characters both on screen and by use of a Swiss-French daisy wheel, I should like to know if it is possible

to set up the 9512 to actually 'speak' French. Is there any way to purchase a start up disk containing a French spell checker that would run on the standard 9512.
Thomas Doyle
Manchester

8000 PLUS Yes. LocoSpell is available with dictionaries in American, Danish, French, German, Spanish, and Italian, with Portuguese and Catalan on the way, from Locomotiuve on 0306 740606. The documentation you get in the UK is only available in English. There isn't a Welsh dictionary unfortunately. Locomotive are very proud of the language range they cover and will no doubt be adding to this list in the near future.

Telling tales

A quick note to ask if you have considered the idea of running a regular short story slot (computer/futuristic based, of course) in 8000 Plus?

Hopefully you will be inundated with such suggestions – in this day and age, any outlet for short stories is more than welcome! Perhaps you might be interested in one based around a sci-fi idea that there is a way to stop PCW carbon

ribbons from jamming halfway through the printing out of your story?
Buzz Rodwell
Ipswich

8000 PLUS Short stories in 8000 Plus? Hmmm... what do people think?

Hitchhike help

I have, believe or not, solved the superb Infocom classic adventure

"HINTS HERE FOR 'BATMAN'– FROM SOMEONE CALLED BRUCE WAYNE..."

game, "The Hitchhikers Guide to the Galaxy"! In a rare moment of generosity I had sometime last week, I decided to share my discovery with all 8000 Plus readers who have been hopelessly and completely stuck, free of charge! Send an SAE to this address with details of your present nightmare.
Anthony Litton
45 Eglinton Road, Donnybrook, Co Dublin 4, Eire

More index

Barry Hill seeks a detailed index of 8000 Plus (23 Aug 88). If he doesn't mind my idiosyncrasies and sends a blank disc (stating density required) I will gladly copy my subject index for him. It is compiled with Masterfile 8000, and issue 1 to 23 occupy 168K (about 3000 records). I hope to keep updating it and, if it is of interest to anyone other than myself, to turn it into a LocoScript file when issue 24 is entered. If Mr Hill doesn't have Masterfile he may wish to wait for that.
Henning Brondum Neilsen
Killichonan, Rannoch Station, Perthshire

Data Protection Act

A letter in the August edition of 8000 Plus, which discussed the manipulation of personal data using a private computer for the purposes of staff reporting, triggered off warning bells regarding the Data Protection Act.

It could well stimulate others, who have the onerous task of assessing their staff, to use their home computer to improve the quality of their reports. Perhaps they should be warned of their liability within the constraints of the Act.

Information covered by the Act is defined as "Personal Data" which is held on a computer system by a "Data User" about a "Data Subject" who must be a "living identifiable individual".

To be subject to the Act, data must:
– include statements of fact or opinion about an individual
– be in an automatically processable format
– be processed or be intended to be processed by reference to the individual
– be processed for a purpose more than merely preparing the text of documents.

The Act allows the following exemptions:

– Personal data held by an individual (eg a home computer user) in connection with personal, family or household affairs or for recreational purposes.
– Information entered onto a computer with the sole purpose of preparing text, editing text and printing out a document.
– payroll, pensions and accounts used for only those purposes
– Information regarding members of the club. All members of a club should be asked if they have any objection to personal data being held. If any do, then either their data should be removed from the files or the data user should be formally registered.
– Mailing lists, unless the data includes occupation, status, interests or preferences, which are subject to the act.

Contravention of the Act may be deemed a criminal offence with severe penalties as a consequence. Furthermore a Data subject has certain rights regarding Personal Data held about him which include:
– Access to personal data
– Compensation for inaccuracy
– Compensation for loss or unauthorised disclosure
– Correction or erasure
– Complaint to the Registrar
It is reasonably clear that staff

reports, entered onto a computer in a purely text format using a word-processor, can be regarded as being outside the Act. However, as soon as personal data is held in a format which allows data processing, such as in a data-base or automatic mailing system, it may well become subject to the Act.

Registration of a company or ogranisation does not necessarily cover the individuals of that organisation, particularly if they hold data on a private machine. If in doubt, individuals should enquire about who is covered and for what purpose and yet can still be deemed in breach of the Act if the system is used for purposes beyond those for which it was registered. Registration can be made on a Form DPR1 which may be obtained from the Post Office. A registration fee of £40 is payable on application.

The boundaries of the act are woolly, particularly for private users, and depend upon their intentions almost as much as the data in 8 guides. Believe it or not this summary of the Act, which I have tailored for PCW users, is relatively very short.
P Stevenson
Fareham

MASTERFILE 8000